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New Directions for Projecting Land Power in the Indo-Pacific

Contexts, Constraints, and Concepts



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About This Report

This report documents research and analysis conducted as part of two related projects, both sponsored by U.S. Army Pacific. The first project was entitled *Alternative Concepts for Land Forces in the Indo-Pacific*. The purpose of the project was to develop multiple strategic and operating concepts for land forces in the Indo-Pacific to achieve U.S. goals in the competition phase and wartime. The second project was entitled *Transformative Concepts of Power Projection*. The purpose of the project was to develop innovative concepts for projecting power to achieve U.S. goals of deterrence and warfighting to overcome the challenges and limitations of relying on large-scale expeditionary warfare.

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Finally, Jennifer Kavanagh and Sally Sleeper provided leadership, support, and guidance throughout these projects.

Summary

This report seeks to address how the U.S. Army can most effectively project and employ land power in the Indo-Pacific, in both peace and war, with a focus on scenarios involving China. We approached this question in several stages. We first *sought to address the demand side of the equation*, surveying regional military and geopolitical trends and assessing in detail China's strategies and tools for pursuing its objectives in the region. Second, we *translated these trends and threats into operational challenges for the Army*. Our subsequent analysis was directed toward those challenges.

Third, to set the context for developing new approaches to projecting land power, we *assessed major constraints facing U.S. land force posture and operations* in this theater. In many ways, this assessment provided the fulcrum around which our studies, and our findings, revolve: Any concepts for land forces in the region must take seriously issues such as access, lift, kinetic and nonkinetic threats to forces and bases, and sustainment. This analysis of constraints is primarily responsible for the modest but significant differences in emphasis between our findings and current Army planning.

Fourth, we *developed a rigorous methodology to generate foundational concepts for land power projection in the Indo-Pacific*. This involved an analysis of past advances in Army concepts (such as AirLand Battle) and their lessons; a review of current Army concepts, both in general and for the Indo-Pacific in particular; a literature review of proposals for Army and joint force approaches to the theater; and an elicitation exercise with RAND Corporation subject-matter experts on promising avenues for conceptual development. We aimed to identify novel concepts to emphasize how the Army can better leverage its capabilities in the theater to take or fulfill new roles. This led to the development of three primary operational concepts: the Army as a visible commitment force, battlefield enabler, and information multiplier.

Fifth and finally, we *explored the feasibility and implications of these concepts*. We did so by developing three operational challenges or vignettes—that is, specific scenarios that would create tests to see how the concepts would work in such cases. These were derived from the operational problems developed earlier in the study. The three vignettes were

- coercive belligerence against a U.S. ally or partner state in the region (with the Philippines as the example)
- maritime invasion against a major regional state (with Taiwan as the example)
- a distant land contingency involving modest, far-flung U.S. support to a country threatened with Chinese land intervention (using India as the example).¹

¹ This analysis did not assess in detail Army roles and missions in a Korea scenario because the operational requirements of that contingency are covered by existing Army and joint plans in intense detail. Additionally, it would call for a force flow and (possibly less strict) constraints that are different from the ones that the Army would likely face in the vignettes described here.

We held a four-hour roundtable on each of these vignettes. More than 30 RAND subject-matter experts participated, many in two or three of the sessions. In each case, the teams that had developed the concept pitched it to the larger group, and we played out the scenario, in the spirit of a tabletop exercise, and discussed the ideas in the concept and broader questions of ground force roles and power projection. After each workshop, we conducted a survey of participants asking them to rate their prioritization of Army missions and capabilities based on the simulation.

Findings

This analysis produced findings about Army roles in the Indo-Pacific and specifically in China-oriented scenarios and the projection of ground force power in that theater. These findings highlighted promising Army concepts, needed Army prerequisites for joint force success, and broader insights about promising avenues for the development of the Army role in this region.

With this foundation, we identified three concepts to guide the Army's role in the theater. The basic ideas reflected in these concepts—such as Army roles in command and control and intelligence, surveillance, and reconnaissance (ISR)—are not new. They reflect many roles that have been traditional for land forces in the region. Moreover, Army leaders have mentioned some of these roles, such as support for joint operations in the theater, as potential priorities. But the Army has yet to articulate a coherent regional role in such conceptual terms; at least in the public domain, it has not formally defined these and similar concepts. This analysis was therefore designed to offer more deeply assessed and articulated ideas that could help the Army more precisely conceptualize its regional role. Our analysis suggests that in this regard the Army could provide the following three operational concepts:

- *Visible commitment force*: The first concept describes the Army's essential role in providing day-to-day signals of U.S. commitment and readiness to send specifically designed, tailored, rapid-reaction forces to deal with a crisis or war.
- *Battlefield enabler*: This second concept speaks to the many ways in which the Army provides capabilities and services essential to the successful functioning of the joint force.
- *Information multiplier*: The final concept emphasizes the central role of information in any future conflict and the potential role of the Army in serving as the provider of surveillance, sensing, and networked communication nodes throughout the theater.

Taken together, these three concepts sketch out a critical, substantial, and multifaceted ground force role in the Indo-Pacific. The sum of these concepts would make the Army what could be described as the *forward service* in the region, offering the essential architecture of basing, information, relationships, and flexible combat power needed to make the joint force effective.

Our research highlights four baseline requirements for Army operations in the theater. We term these *prerequisites* because they constitute the essential foundations on which the three more discrete Army concepts could be developed. They are

- high levels of interoperability with partners and allies
- effective sustainment for the Army and the joint force
- resilient command and control for Army and joint forces in the theater
- pervasive and resilient ISR capabilities to support the U.S. Army presence in the region.

After outlining the elements of a wide-ranging, dynamic Army role in the region, our analysis produced several complementary insights that could help shape Army planning for the theater. Most of these are already a major part of thinking at U.S. Army Pacific. One finding of our analysis is that the general principles of future Army power projection in the region are well understood; the task now is to take seriously their full implications and build the needed capabilities. These findings are as follows:

- *The infrastructure for large-scale military operations—including logistical, surveillance and sensing, and communication networks—is lacking.* Any Army role in this theater will rely on such networks; in many subregions, these networks simply do not exist. Enhanced ground force combat capacity and capability will be largely irrelevant if this remains unchanged.
- *Modular, scalable options are critical.* This concept is already well integrated into Army thinking, but our analysis reinforced the need for highly flexible, functionally based task forces rather than precooked unit types. In a crisis or wartime scenario, what the commander or partner needs will vary by situation.
- *It is better to plan to deploy functions, not units.* In crisis and war, the scenarios examined here are modular, cross-domain fights outside the bounds of the Army's traditional types of land power units. What will contribute most to Army roles in the theater—in the context of the next, better well-defined version of the Army's prevailing multi-domain operations (MDO) concept—will be essential functions that may require task-specific collections of functional capabilities.
- *Information resilience is a foundational requirement.* In peacetime, crisis, and war, China, the primary U.S. rival in the Indo-Pacific, has identified U.S. information vulnerabilities as a major focus of its efforts.
- *The capacity to plug into partner militaries, very rapidly and with high levels of efficiency, will be a critical determinant of success or failure in most scenarios.* This is true in areas from support (catalyzing local civilian logistical networks), to communications and ISR, to combat operations involving long-range strike.
- *Horizontal-escalation options are minimal and dangerous.* We did not find promising roles or missions for the Army in threatening attacks or harassment outside the primary theater of operations.

- *The Army would benefit from tailoring its capabilities and force structure in U.S. Indo-Pacific Command (INDOPACOM) to the operational requirements, not the other way around.* The Army, along with the rest of the joint force, is designed for a wide range of global contingencies and thus has many different capabilities at its disposal for any given contingency. However, not all Army capabilities are well suited for the key INDOPACOM China-specific missions that we identified. For example, large-scale maneuver forces may be relevant for the Middle East, Eastern Europe, and the Korean peninsula but are difficult to envision for a China-specific contingency. Long-range precision fires (LRPF) also need to be tailored to specific contingencies, and their relevance for INDOPACOM China-specific missions is examined in part, but not comprehensively, in this report. Our preliminary analysis finds that there are too many constraints on effectiveness for the Army to have a decisive effect on most scenarios through LRPF or to make an effective long-term argument that the cost and feasibility compare favorably with other joint options for fires in this theater.

Finally, we identified several elements of a refined vision of power projection for the Army. That new vision includes several roles and missions apart from flowing large combat forces and focuses on smaller units that are more feasible within the operational constraints we assessed. Each of these is derived directly from the design of the concepts and the broader findings of the report:

- *Peacetime engagement to enhance regional architectures:* The United States and the Army should think of power projection as a task spanning all the phases of competition and conflict. Laying the groundwork for wartime operations in this massive theater is an essential task.
- *Projecting command and coordination functions:* Command and control as a general function will be shared by all services, but the concepts we propose would establish relatively light, quickly deployable Army headquarters units as the foundational nodes of a command and control network.
- *Projecting domain awareness:* In a future MDO environment, sensing and locating targets, especially under continuous cyber and electronic warfare attack, will be critical functions. Both in peacetime presence and early wartime deployments, the Army will project power in part by conducting this task.
- *Building up partners and allies:* Missions that improve the physical and institutional capabilities of the countries with which the United States is likely to fight are another way of projecting combat power.
- *Projecting combat effects virtually:* Virtual areas include cyber, space, and information warfare, and this projection of combat effects uses significant reach-back to capabilities based in the continental United States.
- *Preventing enemy power projection:* This is accomplished through air defense, counter-space operations, electronic warfare, antiship strike, and other means.

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Introduction

For the past 75 years, the dominant focus of U.S. land forces in the Indo-Pacific was on direct deterrence and reassurance, primarily in South Korea and Japan. However, two trends suggest that the U.S. Army will need to rethink the role of land forces in the Indo-Pacific region and identify new ways of operating to achieve key objectives in peace and wartime. First, China is undertaking increasingly aggressive military and paramilitary activities in the wider Indo-Pacific. Second, multidomain operations (MDO) that focus on the tightly combined application of land, air, sea, and cyber capabilities have emerged as the guiding theme in Army operational thinking. These trends highlight the need for the Army to adopt innovative approaches to its role in joint warfighting and day-to-day competition.

This report seeks to address how the Army can most effectively project land power to achieve national objectives in the Indo-Pacific, in both peace and war, with a focus on scenarios involving China. We approached this question in four stages. We first *sought to address the demand side of the equation*, surveying regional military and geopolitical trends and assessing in detail China's strategies and tools for pursuing its objectives in the region. Second, following the classic course for developing new operational concepts, we then *translated these trends and threats into operational challenges for the Army*. It was against those challenges that our subsequent analysis was directed.

Third, to set the context for developing new approaches to projecting land power, we *assessed major constraints facing U.S. land force posture and operations* in this theater. In many ways, this assessment provided the fulcrum around which the analyses, and our findings, revolve: Any concepts for land forces in the region must take seriously issues such as access, lift, and sustainment. This analysis of constraints is primarily responsible for the modest but significant differences in emphasis between the report's findings and current Army planning.

Fourth, we then *developed a rigorous methodology to generate foundational concepts for land power projection in the Indo-Pacific*. This first involved an analysis of past advances in Army concepts (such as AirLand Battle) and their lessons and a review of current Army concepts, both in general and for the Indo-Pacific in particular. This revealed to us a need to develop specific vignettes that would turn the operational challenges we identified into realistic scenarios to develop new concepts for the Army. After conducting a literature review of proposals for Army and joint force approaches to the theater and consulting with experts from within the RAND Corporation and the U.S. Army War College, we articulated three

vignettes through which to develop and refine our foundational concepts. These vignettes are described in more detail in Chapter 4, on key operational challenges. Briefly, they were as follows:

- *Countering maritime belligerence.* In this vignette, Chinese forces engage in coercive belligerence against a U.S. partner nation in the region, in the form of maritime aggression intended to challenge the sovereignty of partner-nation maritime territorial claims. Initial aggression occurs when Chinese civilian proxy forces (such as the civilian fishing fleet) de facto occupy a set of islands in the South China Sea claimed as sovereign territory by the partner nation. After the partner nation demands the forces' immediate departure, China responds by deploying People's Liberation Army (PLA) Navy and Coast Guard assets to "defend" the Chinese civilian fishing fleet occupying the islands. Quickly, Chinese coercion expands to include a vast misinformation campaign targeting popular support for the partner nation's government leadership and increased Chinese intelligence activity within the partner nation's mainland territory. For discussion purposes, we focused on the Philippines as the threatened nation.
- *Countering maritime invasion.* This vignette focused on a sudden and urgent requirement for a joint or multinational effort to deter an imminent maritime invasion, or defeat an attempted one, of an allied country in a manner timely enough to defeat the enemy force before it lands. The scenario accepted that, in the event that the joint force could not prevent a landing, it would still seek to defeat the enemy in a longer campaign. For the purposes of discussion, we assumed that Taiwan was the threatened nation.
- *Distant border clash.* The final scenario considered a possible U.S. role in responding to Chinese territorial coercion of a neighbor in ways that did not draw the United States directly into the conflict but that did call for some U.S. support for the country under pressure from China. The vignette assumed the involvement of a nation that had a strongly independent national security posture and was too distant for the United States to consider deploying major ground forces. For the purposes of the analysis, we used a specific scenario involving a Chinese border clash with India.

We developed three core concepts by inviting RAND subject-matter experts to nominate, critique, and iterate on conceptual proposals to address each of these vignettes.¹ More than 30 RAND experts participated in the four-hour workshops, many in two or three of the sessions. In each case, the teams that had developed the concept pitched it to the larger group, and we played out the scenario, in the spirit of a tabletop exercise, and discussed the ideas in the concept and broader questions of ground force roles and power projection. At all times, the teams were bound by the constraints on U.S. land force posture that we articulated before-

¹ Notably, this analysis did not assess in detail Army roles and missions in a Korea scenario, because the operational requirements of that contingency are covered by existing Army and joint plans in intense detail. That contingency would certainly call for Army force flow of a different scale from that assumed for the other Army regional roles discussed here.

hand. After each workshop, we conducted a survey of participants asking them to rate their prioritization of Army missions and capabilities based on the simulation.²

Advancing the Concept of MDO

This report aims to advance multiple strategic and operational concepts for land forces in the Indo-Pacific to achieve U.S. goals in the competition phase and wartime—what some have termed *MDO next*—the next, better-defined version of the Army’s prevailing MDO concept. Two studies offered a starting point for this analysis. A 2019 RAND report examined Chinese strategies and approaches, existing Army roles and missions, and the roles of regional partners to understand the contextual factors underlying operational concept. From that, it identified four potential Army roles: close-in defense of allies, long-range power projection to support the same, base infrastructure provided for the joint force in the form of warfighting hubs, and mobile responsive ground forces to support a wider range of partners.³

A 2020 study of Army roles in the Indo-Pacific by the Army War College used a similar process by examining existing Army concepts, posture, authorities, permissions, and mission command arrangements to identify Army roles. It concluded that the Army could take on four roles: as the grid that provides infrastructure for joint operations during competition, as the enabler providing task-organized supplementary capabilities to joint forces during conflict, as a multidomain warfighter with its own distinct combat mission, and as the capability and capacity generator that cultivates relationships with regional powers.⁴

We sought to advance these previous works in three ways:

- defining discrete operational problems to be solved by our concepts

² We did not explore existing Chinese literature for how Beijing may think about and respond to our new operational concepts because (1) they are new and thus we do not expect much Chinese thinking to be publicly available until the ideas gain greater attention in the public domain, and (2) further exploration of Chinese thinking on existing related ideas was outside the scope of this project. However, we did incorporate RAND expert insights on potential Chinese responses to our operational concepts as we developed them, to ensure that they were robust against immediate Chinese responses.

³ Michael J. Mazarr, James Dobbins, Derek Eaton, and John P. Godges, *U.S. Army Roles, Missions, and Optional Postures for Competing with China in the Indo-Pacific*, RAND Corporation, 2021, pp. 94–113, Not available to the general public. For an earlier RAND study on the topic, see Terrence Kelly, James Dobbins, David A. Shlapak, David C. Gompert, Eric Heginbotham, Peter Chalk, and Lloyd Thrall, *The U.S. Army in Asia, 2030–2040*, RAND Corporation, RR-474-A, 2014, pp. 85–102. It proposes six missions for the U.S. Army in Asia in 2030–2040: (1) “provide training and support to allies and partners”; (2) “help defend key facilities from enemy ground, air, and missile attack”; (3) “provide key enabling support to the joint force”; (4) “project expeditionary combat forces into the theater, including the ability to execute modest-sized forced entry operations”; (5) “contribute to new conventional deterrent options”; and (6) “help encourage China’s participation in cooperative military-to-military engagements.”

⁴ Nathan Freier, John Scahus, and William Braun, *An Army Transformed: USINDOPACOM Hypercompetition and US Army Theater Design*, U.S. Army War College, July 2020, pp. 61–68.

- basing our approaches on a single adversary
- grounding our concepts in realistic strategic and operational constraints.

The result is an intellectual contribution that advances the concept of MDO with more detail and a more explicit interrogation of the specific theory of success of such approaches. A major focus of this analysis is how the Army fits into future iterations of MDO.

Defining Discrete Operational Problems

As noted, to identify promising Army roles and missions, we sought to define very specific operational problems that the Army could be asked to solve. Operational concepts are most effective when they are designed to solve operational problems, rather than be in service of generic aspirational statements or use exceedingly broad definitions of the challenge.⁵ For example, retired U.S. Army Brigadier General Huba Wass de Czege has argued that the current MDO concept, in its application in the Indo-Pacific, as well as Europe, remains “too narrowly focused on physical and technological capability shortfalls” and insufficiently grounded in a specific operational problem.⁶ An operational problem, in turn must also address several specific issues:

(1) Given the Army’s mission, what problems arise; (2) What are the *cluster of problems* within the situation that help the aggressor achieve objectives without risking armed conflict; (3) What military weaknesses and disadvantages need to be overcome; (4) Why are the adversaries not deterred, and what would deter them; and (5) What are the “problems” in the defense that facilitate an enemy’s early fait accompli occupation of a U.S. ally?⁷

A clear operational problem enables the articulation of explicit goals. Wass de Czege has argued that, in the context of MDO, statements such as “deter and defeat aggression in both competition and conflict” are too vague.⁸ Developing a solution to a specific operational

⁵ The 2013 edition of Joint Publication 1, for example, concluded that operational concepts should offer “solutions to compelling, real-world challenges both current and envisioned.” Joint Publication 1, *Doctrine for the Joint Forces of the United States*, Joint Chiefs of Staff, March 25, 2013, p. VI-9. See also Joint Staff Joint and Coalition Warfighting, *Planner’s Handbook for Operational Design*, Joint Chiefs of Staff, October 7, 2011, pp. V-9–V-16; Dale F. Spurlin, “The Problem Statement—What’s the Problem?” *Small Wars Journal*, August 6, 2017.

⁶ Huba Wass de Czege, *Commentary on “The U.S. Army in Multi-Domain Operations 2028,”* U.S. Army War College, April 2020, p. xi.

⁷ Wass de Czege, *Commentary on “The U.S. Army in Multi-Domain Operations 2028,”* p. xix. These are listed in slightly different form on p. 13 and include two alternative points: “What are the problems in Allied reinforcement between the earliest nonambiguous warning and the commencement of armed aggression?” And, “What are the problems in Allied counteroffensive operations to recover territory lost due to early fait accompli offensive success by the aggressor?”

⁸ Wass de Czege, *Commentary on “The U.S. Army in Multi-Domain Operations 2028,”* p. xx.

problem demands understanding what the United States is trying to achieve, both in peace and war. Those goals must be as precise as possible to empower the selection of some conceptual ideas over others. Without clear goals, an employment concept will remain generic, aspirational, and exceedingly broad.

A Focus on a Single Adversary

Achieving the clarity demanded requires the integration of details that can be gained only by rooting the work in likely geographical, adversary, and tactical contexts. To do this, we chose to emphasize a single rival and its strategic goals and operational approaches. China has been identified as the main competitor in multiple official strategy documents and senior-leader statements. In the following chapters, we will closely examine Chinese goals and approaches, as well as the operational constraints that the U.S. Army will likely operate under.

Another challenge is that a set of U.S. national objectives for military power in the Indo-Pacific does not automatically imply specific missions for the Army. How the joint force distributes roles and missions is a separate question from general objectives; Army missions could vary widely even under a single set of objectives. Indeed, different operational concepts could be built on very different theories of the Army's role in the joint force's overall approach to meeting national objectives. We outline several specific Army goals below but recognize that these reflect only one possible interpretation.

Defining Clear Constraints on Land Power

A second characteristic of this work is an appreciation for the factors that will impinge on U.S. military plans and efforts. We term these as *constraints on land power*. Like the concept of constraints in mathematical optimization or budget constraints in microeconomics, the optimal operational concepts we develop from this research must adhere to a set of constraints on their uninhibited implementation. Partner-nation access, fires capabilities, lift and force flow, sustainment, joint force interactions, command and control (C2), and signature management must be considered in the design of operational concepts. The constraints may be relaxed or tightened based on judgments of the situation, but they cannot be ignored.

One constraint that we strictly adhere to is the time frame for this analysis: the present day (2022) to 2035. This time frame was chosen in part because it represents a meaningful medium-term planning horizon and because it captures the timelines of two critical Army force planning constructs—the AimPoint Force and Waypoint 2028–2029 force structure initiatives.⁹

Such a medium-term time frame clearly looks beyond the next two to five years, but perhaps the most important implication of this time horizon is that it stops short of potentially more-dramatic changes in a long-term time frame, such as 2050. By that time, some of the

⁹ Andrew Feickert, “The Army’s AimPoint Force Structure Initiative,” Congressional Research Service, May 2020.

trends underway over the next decade and a half might have slowed or reversed; the perception of Chinese power, for example, which is likely to begin moderating even in the next several years under the influence of issues such as an aging workforce and a slowing economy, could shift more dramatically out to 2050 or beyond. Major geopolitical shifts could occur, led by India's arrival as a predominant great power with an economy larger than that of the United States, a far more capable military, and the potential for a much more ambitious foreign policy.

Organization of This Report

Chapters 2 and 3 review global and regional trends and how they shape China's strategic goals and its operational approaches in the region. Chapters 4 and 5 convert those trends into tangible operational problems for the U.S. Army and explore constraints on the use of land power in the Indo-Pacific. These topics may be of interest to Army strategists. Chapter 6 details the process by which our concepts were developed. Chapters 7 to 9 describe the concepts themselves, and Chapter 10 examines prerequisites to their successful implementation. Chapter 11 synthesizes our analyses into overarching observations and recommendations for the Army. Lastly, Appendixes A–F detail the constraint analyses supporting Chapter 5.

Global and Regional Trends

The basis for the concepts presented in this report is an explicit appreciation of global and regional trends and their impact on Chinese strategic goals and operational approaches. In this chapter, we discuss the former; the latter is explored in Chapter 3. The combination of these analyses will then help us articulate the core operational problems to be addressed by our concepts.

Our analysis of global and regional trends relied on two main sources: existing RAND work on the region and broader global trends and unclassified U.S. Department of Defense (DoD) analyses of the changing operational environment.¹ There are four types of trends relevant to an understanding of the core operational problems to be addressed by land power: trends related to Chinese actions, the transition to a more multipolar world, the global or regional context, and U.S. actions.

China-Related Trends

Persistently Rising Chinese Power and Influence

At least for the next 15 years and perhaps beyond, the defining trend underlying most of the operational challenges, opportunities, and constraints is the reality—and just as important, the perception—of growing Chinese power in the Indo-Pacific.² This trend creates much of the raw material for persuasion and coercion that the United States must counter, and it underlies the limited willingness of many regional states to appear to take the U.S. side in the larger competition.³

¹ Raphael S. Cohen, Nathan Chandler, Shira Efron, Bryan Frederick, Eugeniu Han, Kurt Klein, Forrest E. Morgan, Ashley L. Rhoades, Howard J. Shatz, and Yuliya Shokh, *The Future of Warfare in 2030: Project Overview and Conclusions*, RAND Corporation, RR-2849/1-AF, 2020.

² A recent assessment of the latest trends in this regard is Lowy Institute, “Lowy Institute Asia Power Index, 2020 Edition,” 2020. See also Jacob Heim and Benjamin M. Miller, *Measuring Power, Power Cycles, and the Risk of Great-Power War in the 21st Century*, RAND Corporation, RR-2989-RC, 2020.

³ Bonny Lin, Michael S. Chase, Jonah Blank, Cortez A. Cooper III, Derek Grossman, Scott W. Harold, Jennifer D. P. Moroney, Lyle J. Morris, Logan Ma, Paul Orner, Alice Shih, and Soo Kim, *Regional Responses to U.S.-China Competition in the Indo-Pacific: Study Overview and Conclusions*, RAND Corporation, RR-4412-AF, 2020.

An Intensifying Backlash Against Chinese Coercive Behavior

Yet China's growing power—and willingness to use it, often in bluntly coercive ways—is beginning to generate a more significant reaction among states in the region.⁴ This has yet to fundamentally affect states' alignment. All the key regional actors, with the partial exception of Japan (but only partial), desire to maintain good relations with China and live in the space between the two main competitors without formally taking sides. Nonetheless, concern and resentment over Chinese behavior is growing, which has opened space for initiatives to mitigate Chinese power at least at the margins, in areas such as investment controls and information competition.

China's Growing Ability to Exercise a Practical Veto over Large-Scale Wartime Operations in Its Immediate Periphery

The literature on regional military trends has outlined one fundamental trend: Rapidly rising Chinese military investments are shifting the military balance, especially in areas near China's periphery, in ways that will make the Chinese military dominant in these areas.⁵

Multipolarity-Related Trends

More Multipolar Geopolitical Context

Beyond the rise of China, the maps of both global and regional politics are becoming more multipolar with the rise of significant *middle powers*, ranging from India (on a trajectory to become a full-fledged great power by 2050, unless major political, social, or economic disruptions occur) to Vietnam to Indonesia, as well as the growing willingness of established industrial democracies—including Australia, Japan, and South Korea—to flex their independent muscles to shape the region.

⁴ For one recent summary of attitude changes, see Laura Silver, Kat Devlin, and Christine Huang, "Unfavorable Views of China Reach Historic Highs in Many Countries," Pew Research Center, October 6, 2020.

⁵ The foundational RAND report on this issue, whose conclusions remain valid, is Eric Heginbotham, Michael Nixon, Forrest E. Morgan, Jacob L. Heim, Jeff Hagan, Sheng Li, Jeffrey Engstrom, Martin C. Libicki, Paul DeLuca, David A. Shlapak, David R. Frelinger, Burgess Laird, Kyle Brady, and Lyle J. Morris, *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996–2017*, RAND Corporation, RR-392-AF, 2017. See also Mark R. Cozad and Nathan Beauchamp-Mustafaga, *People's Liberation Army Air Force Operations over Water: Maintaining Relevance in China's Changing Security Environment*, RAND Corporation, RR-2057-AF, 2017; Cristina L. Garafola and Timothy R. Heath, *The Chinese Air Force's First Steps Towards Becoming an Expeditionary Air Force*, RAND Corporation, RR-2056-AF, 2017; Duncan Long, Terence Kelly, and David C. Gompert, eds., *Smarter Power, Stronger Partners: Vol. 2, Trends in Force Projection Against Potential Adversaries*, RAND Corporation, RR-1359/1-A, 2017.

Significant Role for Nonstate Actors

A long-term trend toward a more significant role for nonstate actors continues to empower a range of constructive and malign nonstate groups, from human rights and environmental organizations to hacking organizations, transnational criminal and extremist groups, and terrorist organizations.

Growing Regional Programs of Security and Economic Integration

States in the region are seeking to promote their interests through networks. This is true in the security and the economic realms.⁶ Partly out of a desire to hedge between the United States and China, other countries are building relationships with one another in bilateral and multilateral ways.

Contextual Trends

Emergence of Dual-Use Technologies with the Potential to Revolutionize Warfare

A combination of artificial intelligence (AI)–guided networks, autonomous systems, swarming systems, and new forms of weapons, including directed energy, can make traditional approaches to massed formations infeasible and encourage a new degree of dispersal in large-scale engagements.⁷ As one recent service guidance put it, “We must continue to seek the affordable and plentiful at the expense of the exquisite and few.”⁸ This trend points to the potential for operational concepts involving dispersal, swarming, concentration on key locations, concealment, and other principles of a dispersed network rather than a classically concentrated force. Such principles are of course embedded in emerging U.S. concepts, including MDO and Joint All-Domain Command and Control.

Ever-Increasing Importance of the Information Domain

In both peacetime competition and potential wartime operations, the role of information-domain contests—ranging from day-to-day competition over narratives to peaceful cyber manipulation and aggression to large-scale wartime efforts to disrupt adversary network

⁶ Scott W. Harold, Derek Grossman, Brian Harding, Jeffrey W. Hornung, Gregory Poling, Jeffrey Smith, and Meagan L. Smith, *The Thickening Web of Asian Security Cooperation: Deepening Defense Ties Among U.S. Allies and Partners in the Indo-Pacific*, RAND Corporation, RR-3125-MCF, 2019.

⁷ T. X. Hammes, “The Future of Warfare: Small, Many, and Smart vs. Few and Exquisite?” *War on the Rocks*, July 13, 2014; J. Noel Williams, “Killing Sanctuary: The Coming Era of Small, Smart, Pervasive Lethality,” *War on the Rocks*, September 8, 2017.

⁸ David H. Berger, *Commandant’s Planning Guidance*, U.S. Marine Corps, 2019.

coherence—is now critical. Information tools play a leading, if not dominant, role in recent Chinese operational concepts and broader national strategies.⁹

The Continuing Importance of the Competition Phase or Gray Zone

China seeks to achieve its objectives, if possible, through operations short of war.¹⁰ Chinese competition-phase activities seek to achieve unique objectives on their own and also to set the theater for conflict if it were to occur, in part by influencing the health of U.S. partnerships and alliances and constraining U.S. peacetime access. The importance of actions and responses that lie in the gray zone between war and peace is beginning to be enshrined in U.S. joint concepts.¹¹ According to the *Joint Concept for Integrated Campaigning*, “the Joint Force must be ready to counter or defeat the efforts of hostile actors seeking to undermine our interests without triggering an overt conflict.”¹²

Growing Populist Nationalism Across the Region and the Globe

Economic and social pressures have fostered the growth of nationalist groups and populist movements in many countries. The Indo-Pacific has arguably been somewhat less hard-hit than other areas, with many prominent regional powers—including Japan, South Korea, Australia, Vietnam, and Indonesia—not yet witnessing nationalist movements on the scale of those in Europe or elsewhere. But populism has had direct political effects in the Philippines and India and could become more prominent in the region.

⁹ Edmund J. Burke, Kristen Gunness, Cortez A. Cooper III, and Mark Cozad, *People's Liberation Army Operational Concepts*, RAND Corporation, RR-A394-1, 2020; Jeffrey Engstrom, *Systems Confrontation and System Destruction Warfare: How the Chinese People's Liberation Army Seeks to Wage Modern Warfare*, RAND Corporation, RR-1708-OSD, 2019; Michael J. Mazarr, Abigail Casey, Alyssa Demus, Scott W. Harold, Luke J. Matthews, Nathan Beauchamp-Mustafaga, and James Sladden, *Hostile Social Manipulation: Present Realities and Emerging Trends*, RAND Corporation, RR-2713-OSD, 2019.

¹⁰ Ben Connable, Jason H. Campbell, and Dan Madden, *Stretching and Exploiting Thresholds for High-Order War: How Russia, China, and Iran Are Eroding American Influence Using Time-Tested Measures Short of War*, RAND Corporation, RR-1003-A, 2016; Lyle J. Morris, Michael J. Mazarr, Jeffrey W. Hornung, Stephanie Pezard, Anika Binnendijk, and Marta Kepe, *Gaining Competitive Advantage in the Gray Zone: Response Options for Coercive Aggression Below the Threshold of Major War*, RAND Corporation, RR-2942-OSD, 2019. U.S. Army Training and Doctrine Command notes, “Vulnerable fault-line states are the principal targets of Chinese and Russian offensive operations short of armed conflict, which are calculated to avoid triggering a decisive U.S. response”; U.S. Army Training and Doctrine Command, *U.S. Army in Multi-Domain Operations 2028*, Pamphlet No. 525-3-1, December 6, 2018, p. 7.

¹¹ Joint Doctrine Note 1-19, *Competition Continuum*, Joint Chiefs of Staff, June 3, 2019, p. 1.

¹² Joint Chiefs of Staff, *Joint Concept for Integrated Campaigning*, March 16, 2018, p. 1.

Broader Contextual Trends: Environmental, Demographic, Societal

Official U.S. analyses of the emerging operating environment also highlight a range of broader trends in the global context that may shape the objectives and design of U.S. operational concepts. They include

- climate change and associated trends, such as sea-level rise and severe weather
- aging populations and the effects on economies and military manning
- continually rising rates of urbanization
- the risks of infectious disease, now obvious in the wake of the COVID-19 pandemic but with additional risks in the form of future pandemics that could be even more deadly
- persistently growing inequality both between and within nations.

U.S.-Related Trends

Looming Fiscal Constraints on U.S. Resources

Rising U.S. debt and debt servicing obligations, the enormous costs of COVID-19 pandemic response and relief efforts, and other priorities, ranging from climate change investments to social programs, are likely to put growing pressure on U.S. defense budgets. The U.S. Army and other services may see slightly declining budgets in years ahead, intensifying the need for prioritization decisions between, for example, legacy force structure and investments and emerging technologies.

U.S. Global Commitments Will Continue to Divert Attention and Resources from the Indo-Pacific

Although DoD has explicitly identified China as its main strategic competitor, other priorities remain. DoD must continue to confront Russian aggression in Europe, manage conflicts in the Middle East and on the Korean peninsula, and deal with a range of nonstate threats.¹³ These demands will dilute U.S. ability to focus full attention and resources on China.

Implications

Taken together, these general trends produce a challenging context for U.S. Army roles and missions in the region. China's influence, coercive activities, and belligerence are rising. Its military capabilities are rapidly expanding. U.S. friends and allies are looking for reassurance. And the U.S. domestic and fiscal situation will not allow massive new investments to

¹³ DoD, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the Military's Competitive Edge*, 2018, pp. 2–3.

provide the Army or the joint force with the full capabilities they would prefer. Concepts for Army roles and missions in the Indo-Pacific must deal with these issues.

Specifically, our analysis identified several leading implications for potential Army concepts, and the future of power projection, in the region:

- China's undeniably growing power, and in particular its dominant regional economic profile, is likely to continue to place strict limits on the willingness of many countries in the region to dramatically expand military collaboration with the United States or to host additional U.S. forces.
- Any future Army regional role should take significant advantage of emerging technologies to provide the best possible combat power in a more distributed and dispersed form.
- Limits on U.S. resources for defense are likely to require relatively efficient use of military forces in peacetime to set the conditions for success. The Army, as with other services, is likely to have to make hard choices between major possible concepts rather than being able to invest in many approaches at the same time.
- In a more multipolar context, U.S. friends and even some allies feel constrained in how directly they can partner with the United States in the security realm, and strengthening their own self-defense capabilities emerges as a productive route to enhancing deterrence even in the absence of bolstered U.S. posture.
- The information realm is emerging as the fulcrum around which military operations, in peace and war, revolve.

Taken together, these implications reflect a more challenging environment for the projection and employment of land power in the region. Increasing Chinese military capabilities will make the projection of military power in a crisis or conflict—particularly heavier land power capabilities, such as long-range precision fires and armor—a riskier proposition. At the same time, establishing a more permanent or prepositioned presence in the region during competition will also be challenging, owing to China's economic and coercive power over regional partners and even allies. This research assumes that these trends are hard constraints in order to identify alternative concepts of land power in the region.

The Source of Operational Challenges: Chinese Strategies and Approaches

The global and regional trends described in Chapter 2 inform our understanding of Chinese strategies and approaches. Specifically, they help us characterize China's desired end state and the two approaches short of war it uses to achieve that state: peacetime shaping of the regional environment and coercive actions against specific states. We also discuss key features of Chinese military operations that the nation is preparing to undertake should the first two approaches fail to contribute to China's desired end state: regional economic dominance and an end to the status quo American-led alliance system. Finally, we illustrate how these trends act as part of an integrated whole using a vignette exploring a hypothetical proxy war in Thailand.

China's Strategic and Operational Approach in the Indo-Pacific

In this section, we review China's strategic and operational approach to achieving its aims in the Indo-Pacific. We begin by summarizing Beijing's desired end state in the Indo-Pacific. This end state serves as the aim point for the country's strategic and operational approach. We conceptualize this approach as having three parts. The first two parts consist of peacetime shaping efforts (primarily positive inducements, or "carrots") and coercive actions (threats or other forms of pressure, or "sticks"). In many ways, these parts merely describe actions and activities already well underway, but they both seek, among other aims, to reduce U.S. influence and diminish U.S. military access in the theater. These two parts rely primarily on nonmilitary levers of government, but the PLA does play an important role. The third part of China's strategic and operational approach explores how combat operations could serve Beijing's goals. This section is admittedly a more speculative analysis, but it also carries clearer implications for U.S. combat capabilities. We explore the conditions and drivers that might induce China to engage in combat operations with U.S. military forces. As we will show, Chinese success in diminishing U.S. influence and access through the peacetime and coercive measures could increase the incentive to consider combat operations against U.S. forces, as these earlier successes could both elevate the odds of a PLA battlefield victory and reduce the risk of escalation.

China's Desired End State

China has made little secret of its aspiration to play an increasingly dominant role in the Indo-Pacific. Economically, Beijing has outlined a vision of regional integration through a Chinese-led infrastructure and investment network known as the Belt and Road Initiative. The promotion of Chinese-led regional trade rules, embodied in the Regional Comprehensive Economic Partnership, and infrastructure investment, symbolized by Beijing's establishment of the Asian Infrastructure Investment Bank, complement the Belt and Road Initiative and embody the country's regional economic aspirations.¹

But China's regional ambitions extend beyond the economic domain. As new security threats face the nations of East Asia, Chinese officials argue that the traditional American-led alliance system will be unable to meet these novel challenges, and a new security architecture will be needed.² Xi Jinping and other Chinese leaders have repeatedly called for the creation of a "community of common destiny" throughout the world, and especially in the Asia-Pacific.³ Under this "new approach to state-to-state relations," states will focus on areas of general agreement, working together through trade to foster economic development and cooperating to overcome shared security concerns, such as climate change, violent nonstate actors, cyberattacks, and natural disasters.⁴ China's vision of the "community of common destiny" for the region does not appear to welcome the prospect of countries banding together resist the demands of their larger neighbor and allows no place at all for them to seek the aid of "outside power," such as the United States.⁵

Indeed, while China has at times openly disclaimed any desire to dismantle the American alliance system in East Asia, it has also characterized that system as a threat to regional stability and clearly does not want to see the system strengthened.⁶ Rather, Beijing hopes that the American alliance system will fade into a historic footnote, subsumed into a new non-

¹ Lu Yang, "BRI, RCEP Best Solution for South Asia and Southeast Asia Recovery," *Global Times*, December 23, 2020.

² Joel Wuthnow, "Asian Security Without the United States? Examining China's Security Strategy in Maritime and Continental Asia," *Asian Security*, Vol. 4, No. 3, 2018.

³ Kong Xuanyou [孔铨佑], "Xi Jinping's Thoughts on Foreign Policy: China's Neighborhood Diplomacy and Practical Innovation" ["习近平外交思想和中国周边外交理论与实践创新"], *Seeking Truth*, August 2019.

⁴ State Council Information Office, People's Republic of China, *China and the World in the New Era*, September 27, 2019.

⁵ State Council Information Office, People's Republic of China, *China's Policies on Asia Pacific Security Cooperation*, January 11, 2017; State Council Information Office, People's Republic of China, *China's Military Strategy*, May 26, 2015.

⁶ State Council Information Office, People's Republic of China, *China's Policies on Asia Pacific Security Cooperation*; Wuthnow, "Asian Security Without the United States?"

militarized and nonconfrontational regional security regime.⁷ American alliances, Beijing hopes, will become largely impotent arrangements incapable of empowering either Washington or other regional states to assert their interests against China.⁸ Although China claims not to seek any hegemony or a sphere of influence in East Asia, the creation of a “community of common destiny” there would leave its neighbors without many options to oppose its wishes—and the United States with few options to project power.⁹

If alliances are permitted to remain at all in China’s vision for Asia’s evolving security order, they must not provide the United States any pretext for military operations against China.¹⁰ Furthermore, Beijing’s reaction to South Korea’s decision to host an American Terminal High-Altitude Air Defense (THAAD) antiballistic missile battery suggests that China expects a certain amount of veto power over American military deployments within the region that it deems threatening.¹¹ Threats against states that offer to host American intermediate-range missiles further support this view.¹² China remains wary of American military activities in East Asia and will likely use its growing leverage over its neighbors to curtail the access that U.S. ships, planes, and soldiers enjoy in its territory, waters, and airspace.

Peacetime Shaping

As noted, China’s strategic and operational approach to realizing its vision of regional primacy entails three parts. The first consists of peacetime shaping efforts—mainly positive inducements (carrots). Even today, China is working to shape the economic, information, diplomatic, and military environment in East Asia. Its efforts both help make its dream of a “community of common destiny” in East Asia a reality and give China many options to restrict American military operations there.

In this endeavor, economics are key. The rapid growth of the Chinese economy over the past few decades has created economic opportunities that no country in the region wants to

⁷ State Council Information Office, People’s Republic of China, *China’s Policies on Asia Pacific Security Cooperation*.

⁸ State Council Information Office, People’s Republic of China, *China’s Policies on Asia Pacific Security Cooperation*.

⁹ State Council Information Office, People’s Republic of China, *China and the World in the New Era*.

¹⁰ John Ruwitch, “China Warns U.S., Japan, Australia Not to Gang Up in Sea Disputes,” Reuters, October 6, 2013.

¹¹ Ankit Panda, “Why China and Russia Continue to Oppose THAAD,” *The Diplomat*, June 4, 2017.

¹² Michael Martina, “China Warns of Countermeasures If U.S. Puts Missiles on Its ‘Doorstep,’” Reuters, August 5, 2019.

miss.¹³ Beijing's insistence on win-win solutions to problems may ring hollow when it comes to territorial disputes, but on the whole its rise truly has brought great benefits to the other states of the region, even if its trade practices have led to some complaints.¹⁴ As of 2018, China was the largest trading partner (in terms of exports and imports) of South Korea, Japan, the Philippines (if Hong Kong is included), Vietnam, Thailand, Indonesia, and Australia.¹⁵ Much of this growth in economic interaction is natural—China possesses one of the world's largest economies, and its proximity to all of these states makes it a natural economic partner. That being said, Beijing also seeks to increase economic integration throughout East Asia and beyond as a matter of policy. One of its key ways of doing so is through a series of bilateral and multilateral free trade agreements, culminating in the recent Regional Comprehensive Economic Partnership.¹⁶ Essentially, China is calling for trade on its own terms, spreading the use of Chinese technological standards and paving the way for the adoption of its technologies and products.¹⁷ Given China's size and the strength of its communications and infrastructure companies relative to most of its Asian trading partners, this tends to create relationships of asymmetric interdependence in which China has far greater leverage, though local states do still sometimes manage to assert their interests.¹⁸

China also seeks to encourage greater trade through financing and building transportation infrastructure, often through its Belt and Road Initiative.¹⁹ China's hope is that new ports, roads, railroads, and airports will lead not only to increased trade but also to greater prosperity (and thus more-lucrative markets) in the areas where they are built.²⁰ In addition, these projects are significant because China is often the only source of funding available for

¹³ Jonathan Stromseth, "Competing with China in Southeast Asia: The Economic Imperative," in Ryan Hass, Ryan McElveen, and Robert D. Williams, eds., *The Future of US Policy Toward China: Recommendations for the Biden Administration*, Brookings Institution, November 2020; Jeffrey A Bader, "China's Role in East Asia, Now and in the Future," Brookings Institution, September 6, 2005.

¹⁴ State Council Information Office, People's Republic of China, *China and the World in the New Era*, pp. 14–15.

¹⁵ According to United Nations Comtrade data, as presented in the Observatory of Economic Complexity; see Alexander James Gaspar Simoes and Cesar Hidalgo, "The Economic Complexity Observatory: An Analytical Tool for Understanding the Dynamics of Economic Development," paper presented at the Workshops at the Twenty-Fifth Association for the Advancement of Artificial Intelligence Conference on Artificial Intelligence, August 7–11, 2011.

¹⁶ Hung Tran, "New Asian Free Trade Agreement Secures Economic Space for China," *New Atlanticist* (Atlantic Council), November 16, 2020.

¹⁷ Tran, "New Asian Free Trade Agreement Secures Economic Space for China."

¹⁸ See, for example, Malaysia's challenge to the terms of infrastructure loans received from China.

¹⁹ Hui Lu, Charlene Rohr, Marco Hafner, and Anna Knack, *China Belt and Road Initiative: Measuring the Impact of Improving Transportation Connectivity on Trade in the Region*, RAND Corporation, RR-2625-RC, 2018, p. 2.

²⁰ Lu et al., *China Belt and Road Initiative*, p. 2.

its poorer neighbors' major infrastructure projects.²¹ The Philippines chose to stop challenging Chinese territorial claims in part because China promised to fund billions of dollars in infrastructure construction there.²² With plentiful trade opportunities and the promise to finance and build the pet projects of local governments, China can offer major economic benefits to any country willing to join and play by the rules of its growing community of shared destiny.

Besides economics, China also relies on a variety of information operations to influence states in its vicinity and around the world. In the past decade, Beijing has significantly increased the resources it devotes to its state-run media agencies, enabling them to “tell China’s story well” to audiences around the world.²³ Although much of this comes in the form of traditional radio or television programming, Chinese broadcasters are sometimes accused of seeking to mask their relationship with the Chinese government or Communist Party to make their stories appear to be independently produced. They frequently disseminate their content through a series of often opaque arrangements with local news agencies.²⁴ Even more troubling, Beijing works hard to suppress stories or narratives it does not want spread, even outside China itself.²⁵ It often accomplishes this by pressuring institutions to punish individual scholars or reporters, punishing institutions that do not comply, harassing or detaining family members in China, and launching cyberattacks against individuals or institutions pushing these narratives.²⁶ Perhaps most troubling of all are reports of Chinese Communist Party agents in states such as Australia attempting to bribe or subvert politicians to support pro-China policies.²⁷

Of course, the PLA also has an important part to play in complicating American operations in the Asia Pacific. The brunt of its responsibility is to build military capacity to deter and if necessary, defeat American intervention in any conflict in East Asia, especially within the first island chain. Much has been written about these developments in reports wholly devoted to Beijing’s growing antiaccess/area denial (A2/AD) capabilities, and we do not treat it in detail here. We would, however, point out that many of the objectives of a military A2/

²¹ China Power Project, Center for Strategic and International Studies, “Does China Dominate Global Investment?” updated December 1, 2020.

²² Chun Han Wong, “In Setback to U.S., Philippines Sets Aside Dispute with China,” *Wall Street Journal*, October 20, 2016.

²³ Ben Blanchard and Michael Martina, “China’s Xi Urges State Media to Boost Global Influence,” Reuters, February 19, 2016.

²⁴ Blanchard and Martina, “China’s Xi Urges State Media to Boost Global Influence”; Sarah Cook, *Beijing’s Global Megaphone: The Expansion of Chinese Communist Party Media Influence Since 2017*, Freedom House, January 2020, pp. 5–9.

²⁵ Christopher Walker and Jessica Ludwig, “The Meaning of Sharp Power: How Authoritarian States Project Influence,” *Foreign Affairs*, November 16, 2017.

²⁶ Cook, *Beijing’s Global Megaphone*, pp. 13–16.

²⁷ “Australia Investigates Alleged Chinese Plot to Install Spy MP,” BBC News, November 25, 2019.

AD campaign can in fact be carried out through peacetime shaping and nonkinetic coercion. There is no need to fire a missile at troops who have been evicted or to bombard a port that is closed to U.S. military use. If China is successful in convincing local states (and especially U.S. allies) not to allow U.S. military access, it may achieve its goals without firing a shot. In the event that shots must be fired, operations will be much more difficult for the United States if it is not able to call on soldiers and prepositioned supplies within the Indo-Pacific region.

On the diplomatic front, the PLA helps China build good will with other East Asian states through port calls, joint exercises, humanitarian assistance, the sale or donation of equipment, and joint counterterrorism or law enforcement activities.²⁸ Although these activities are rarely exclusive (the Thai military regularly exercises with both U.S. and PLA troops, for example), they are significant in that they allow the PLA to provide some of the services for which many nations have traditionally looked to the U.S. military. As China continues to increase the carrots it can provide to its neighbors, we should consider what the United States, and the U.S. Army in particular, can do for states in the region. Is there anything that the U.S. Army can provide that the PLA cannot, or that the United States can provide better than the PLA? Why would a local government risk losing all of the of the benefits Beijing offers to provide the U.S. military access to its territory, and what can the U.S. Army do to make sure that local governments are able to maximize those benefits of having American forces nearby? Because many of the militaries in the region are land force-centric, this could be a job for which the U.S. Army is uniquely well suited.²⁹

Coercion

The second part of China's strategic and operational approach to realizing its vision of regional primacy consists of coercion (sticks). Despite all the benefits China can provide its neighbors and its leverage over them, some will still choose to oppose (challenge) Beijing and may seek U.S. support in doing so. When this happens, China's preferred course of action is to use the economic, technological, information, and military ecosystem it has worked to build in East Asia to punish the offending state. These actions are usually targeted more at the U.S. local allies when possible (instead of directly at the United States itself, which is harder to hurt economically or intimidate militarily and which can retaliate) and fall short of armed combat.

Chinese coercion almost always involves an economic component. Economic sanctions were a key part of China's punishment of Australia for insisting that the World Health Organization investigate the origins of COVID-19, of South Korea for deploying the THAAD missile defense system, of Mongolia for allowing the Dalai Lama to visit, and of the Philippines

²⁸ Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020*, U.S. Department of Defense, 2020, pp. 32, 122.

²⁹ Peter Chalk, *The U.S. Army in Southeast Asia: Near-Term and Long-Term Roles*, RAND Corporation, RR-401-A, 2013, pp. 19–20.

for challenging China's territorial claims.³⁰ In each of these cases, China followed a consistent pattern in its economic sanctions. First of all, Chinese sanctions are usually informal. Instead of formally cutting off trade, China will generally find some pretext to place onerous tariffs or customs requirements on imports of a specific product or set of products, effectively excluding them from the Chinese market.³¹ In choosing which products to single out, Chinese officials are generally careful to avoid products that are economically important to China and that are politically significant to the target nation.³² China also frequently directs its tourists away from states it seeks to punish and may retaliate against companies from the target country operating in China.³³ Because Chinese sanctions are informal, it is simple to reverse them, and China often does so after a relatively short duration. In this way, China can carefully control and limit any economic damage to itself while causing great economic pain in the target country and focusing that pain on interest groups that can lobby the target government on China's behalf.

In addition to economic punishment, China uses its military and paramilitary forces to intimidate its neighbors when they defy Beijing's wishes, particularly within the first island chain. These efforts are often led by Chinese paramilitary forces, especially the PLA's maritime militia.³⁴ Composed of ostensibly civilian, steel-hulled long-range commercial fishing ships often augmented with government-provided satellite navigation and communication systems, the Maritime Militia is infamous for harassing military or civilian vessels operating in China-claimed waters.³⁵ When China wants to prove a point, as many as several hundred of these vessels can swarm an area, often under the watchful care of nearby and heavily armed China Coast Guard ships and within missile range of PLA Navy warships in case the target country decides to send its own government or military vessels to protect its fishers or infrastructure from the militia or to challenge the militia's claim to a particular piece of ocean.³⁶

³⁰ Panda, "Why China and Russia Continue to Oppose THAAD"; "Australia Accuses China of Undermining Trade Agreement," BBC, December 9, 2020; Terrence Edwards, David Stanway, and Ben Blanchard, "China Slaps New Fees on Mongolian Exporters amid Dalai Lama Row," Reuters, December 1, 2016; "China's Banana Diplomacy with the Philippines," *Stratfor Worldview*, May 17, 2012.

³¹ "Australia Accuses China of Undermining Trade Agreement."

³² "China's Banana Diplomacy with the Philippines"; Karl Plume and P. J. Huffstutter, "U.S. Farmers See Another Bleak Year Despite Phase 1 Trade Deal," Reuters, January 3, 2020.

³³ Jethro Mullen, "China Can Squeeze Its Neighbors When It Wants. Ask South Korea," CNN, August 30, 2017.

³⁴ James Kraska, "China's Maritime Militia Vessels May Be Military Objectives During Armed Conflict," *The Diplomat*, July 7, 2020.

³⁵ Kraska, "China's Maritime Militia Vessels May Be Military Objectives During Armed Conflict."

³⁶ Pratik Jakhar, "Analysis: What's So Fishy About China's 'Maritime Militia?'" BBC Monitoring, April 15, 2019.

Within the first island chain, the PLA Air Force and Rocket Forces are also known to occasionally engage in provocative exercises or flights, perhaps most famously missile tests off the coast of Taiwan in 1995 and 1996. Taiwan has also been the target of a growing number of PLA Air Force exercises and flights around the island or into what has traditionally been considered Taiwanese airspace, presumably to intimidate the Taiwanese into accepting China's formulation of their relationship.³⁷ Japan has also recently experienced a significant uptick in both aerial and maritime intrusions into its airspace and waters, though this may be more a result of the PLA's developing capabilities than an attempt by Beijing to punish Tokyo for anything more specific than continuing to assert its administrative control over the Diaoyu (Senkaku) Islands.³⁸

As the PLA becomes more capable, China's use of warships, warplanes, and fishing vessels to punish or intimidate local states is likely to grow more common and more brazen. Unlike economic sanctions, this is a problem the U.S. military and Army may be able to help American allies in the region overcome, and it may be worth considering what options the U.S. Army can provide local states to help them face these threats.

Combat Operations to Secure Chinese Primacy

The third part of China's strategic and operational approach consists of combat operations. To control the risks of escalation, Chinese authorities can be expected to prioritize peaceful efforts to gradually displace the United States as the Indo-Pacific's preeminent power. But Chinese officials recognize that diplomacy, economic incentives, and even coercive measures might not suffice to persuade countries in the region to curb U.S. military access and prioritize Chinese political preferences over those of the United States in diplomacy and security policy.

At some point, Chinese leaders may decide that combat operations are required to close the chapter on U.S. hegemony across the Indo-Pacific. A decisive demonstration of Chinese military prowess and U.S. military failure could clarify like nothing else China's supersession of the United States. Japan's stunning victory over Russia in the 1904–1905 war provides a historical example in which impressive battlefield victories cemented world perceptions of Japan's ascendancy as a great power and of Russian decline.

War with the United States obviously carries tremendous risks for China. And there is no evidence that Beijing is currently intent on using force to drive the United States out of the Indo-Pacific. On the contrary, the most-recent foreign policy documents affirm China's

³⁷ Note that in addition to intimidating the Taiwanese, the bomber flights also serve to train the PLA Air Force and regularize its presence all around Taiwan. Nathan Beauchamp-Mustafaga, Derek Grossman, and Logan Ma, "Chinese Bomber Flights Around Taiwan: For What Purpose?" *War on the Rocks*, September 13, 2017.

³⁸ Brad Lendon and Yoku Wakatsuki, "Japan's Air Force Faces a 'Relentless' Burden, Imposed by China," CNN, July 29, 2020.

intent to “not exclude” any country from participation in the region. The same sources state that China “has no intention of challenging the United States.”³⁹ However, even if Chinese authorities sincerely have no intent to challenge U.S. leadership through combat operations today, those intentions could change. As noted, Beijing has already made clear its desire to achieve regional primacy. Official documents have also outlined ambitions to build a military that is in some ways equal or superior to that of the U.S. military.⁴⁰ Should appropriate incentives and conditions arise, Beijing could be well positioned to risk combat operations to achieve its strategic aims. Indeed, the Chinese military’s modernization over the past three decades has largely been tailored for deterring, or defeating if necessary, the U.S. military, probably for a Taiwan contingency.⁴¹ This is most evident in the PLA Rocket Force’s DF-21 medium-range and DF-26 intermediate-range ballistic missiles, which both include land-attack variants to strike U.S. bases in the first and second island chains, as well as anti-ship variants to strike U.S. aircraft carriers.

How might Beijing design such a war? The most plausible scenario is one in which China’s goals in a regional conflict include as an important objective the discrediting of U.S. power in the Indo-Pacific. China could provoke a war with a neighbor in part to resolve some long-standing issue, such as the status of a disputed territory, while simultaneously designing the military operation in a way that demonstrates the superiority of China’s military over that of the United States. In fact, there are compelling reasons for China to frame a conflict with the United States as part of a struggle with a neighboring country. Defining a war politically as one principally involving China and a neighboring country permits political space to avoid escalating the war into a broader U.S.-China global war—a conflict that could have disastrous consequences for China, the United States, and the world. Defining the conflict in such terms could also provide a face-saving way for the United States to bow out of any security obligations and tacitly concede without fighting. Of course, there is no guarantee that the United States would concede, even after a clash with Chinese military forces. For this reason, it is in China’s interest to plan a war to decisively defeat a U.S. military intervention as part of operations against a neighbor.

To increase the odds of victory and control the risks of escalation, China could avoid initiating the conflict until after Beijing had made substantial progress in its peacetime and coercive efforts to restrict U.S. military access, undermine alliances, and generally weaken U.S. influence throughout the region. A United States that tried to operate with severe constraints on its military access might have a strong incentive to consider ending its war effort, given the difficulties it would face in generating combat power. This point underscores the impor-

³⁹ State Council Information Office, People’s Republic of China, *China and the World in the New Era*.

⁴⁰ Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2020*, pp. 7, 87.

⁴¹ Michael S. Chase, Cristina L. Garafola, and Nathan Beauchamp-Mustafaga, “Chinese Perceptions of and Responses to US Conventional Military Power,” *Asian Security*, Vol. 14, No. 2, 2018; Heginbotham et al., *The U.S.-China Military Scorecard*.

tance of the peacetime shaping and coercive parts of the strategic and operational approach. By contrast, a China that had generally failed to substantially curb U.S. influence and access through its peacetime shaping and coercive efforts would probably regard war with a dominant, well-entrenched United States as intolerably risky, just as Beijing has likely done in previous decades.

The idea that China might design a combat operation to both shatter U.S. credibility and resolve a regional dispute suggests several other features that might inform its planning. In terms of location, the conflict would serve Chinese interests best if it involved a U.S. ally or partner whose security carried high reputational risks for Washington. Geographically, the conflict would ideally take place within the first island chain, so that China could bring to bear the full weight of its counterintervention capabilities. Because the military course of action would have as one of its goals a vivid demonstration of U.S. defeat, luring in major U.S. air and naval platforms into the battle would be desirable. Limitations on the U.S. ability and willingness to deploy major ground forces on the Asia mainland outside the Korean peninsula may mean that ground combat operations might not suffice for the purposes of demonstrating Chinese military superiority. Together, these suggest candidate contingencies involving U.S. allies and partners within the first island chain, such as Japan, Taiwan, and the Philippines. Indeed, available evidence suggests that Chinese training exercises of a combat nature continue to focus overwhelmingly on scenarios involving Taiwan and traditional flashpoints, such as those related to islands in the South and East China Seas.⁴² The difference in the course of action proposed here is that the PLA would plan to entice and then defeat a U.S. intervention as a core objective of the operation.

Key Features of Chinese Military Operations

China's military has not fought a war since 1979, when it fared poorly against Vietnam. However, the PLA has since then invested enormous resources in building a lethal, capable military. In this section, we review aspects of the PLA's force structure and operations that would likely inform its combat operations in a future contingency involving U.S. military forces. Although the PLA's ability to endure the stresses of modern war remains untested, it has continually refined and improved its ability to operate as an integrated joint force in exercises and training.

⁴² Frank Chen, "PLA Drills Put Taiwan in Crosshairs," *Asia Times*, May 15, 2020; "Chinese Military Exercises Include Simulated Attack on Taiwan," *Taiwan News*, July 22, 2015; "PLA to Hold Two Simultaneous Exercises in South China Sea," *Global Times*, November 16, 2020; Andrew Scobell, Arthur S. Ding, Phillip S. Saunders, and Scott W. Harold, *The People's Liberation Army and Contingency Planning in China*, National Defense University Press, 2015.

Force Structure

The PLA aims to operate as an integrated joint force. In 2015, the military initiated a major reform that established for the first time five joint theater commands with dedicated missions in their respective theaters.⁴³ As part of the reform, the PLA seeks to organize its ground forces on a combined arms brigade structure. It has also established a strategic support force that provides PLA-wide support for nuclear deterrence, space and cyber reconnaissance, and information, as well as a joint logistics force to streamline and improve the responsiveness and effectiveness of logistics support to the joint force.⁴⁴ Although the reorganization is relatively recent, it culminates years of experimentation and testing of joint concepts. Analysis of publicly available data on PLA training and exercises suggests that the PLA is demonstrating greater sophistication and ability to operate as a joint force, although it continues to be constrained by an outdated organizational culture.⁴⁵ Moreover, the PLA has prioritized training under realistic combat conditions, which it has implemented with such measures as the establishment of regional training bases that include dedicated opposition force units, urban training environments, and the incorporation of complex electromagnetic combat conditions.⁴⁶ A 2015 report by RAND noted that the gap in a broad array of Chinese and U.S. military capabilities had narrowed significantly in areas near Taiwan, although the U.S. advantage remains sizable outside the first island chain.⁴⁷

Doctrine

China's concept of *integrated joint operations* envisions a flexible combination of information systems and networks that enables Chinese military planners to fuse the operational strengths from each of the PLA's services. The notion of integrated joint operations is closely linked to the concept of *informatization* and *systems confrontation*, also known as *system of systems warfare*. Informatization forms the core of China's joint operations and consists of information networks to integrate and systematize operations to achieve information superiority.⁴⁸ The system of systems warfare concept is based on linking command automation;

⁴³ Philip Saunders and Joel Wuthnow, "China's Goldwater-Nichols? Assessing PLA Organizational Reforms," *Joint Force Quarterly*, Vol. 82, No. 3, April 2016.

⁴⁴ Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020*, p. 40.

⁴⁵ Edmund J. Burke, Astrid Stuth Cevallos, Mark R. Cozad, and Timothy R. Heath, *Assessing the Training and Operational Proficiency of China's Aerospace Forces*, RAND Corporation, CF-340-AF, 2016, p. 32.

⁴⁶ Mark R. Cozad, "PLA Joint Training and Implications for Future Expeditionary Capabilities," testimony presented before the U.S.-China Economic and Security Review Commission on January 21, 2016, RAND Corporation, CT-451, 2016.

⁴⁷ Heginbotham et al., *The U.S.-China Military Scorecard*.

⁴⁸ Zhan Yu [战玉], "A Study of the Theory of Integrated Joint Operations" ["一体化联合作战理论探要"], *China Military Science* [中国军事科学], No. 6, 2007.

intelligence, surveillance, and reconnaissance (ISR); precision strike; and rapid mobility to quickly strike an enemy's system of vital nodes. Its main features may be distilled as "information dominance, precision strikes, and integrated joint forces."⁴⁹ The goal of systems confrontation is "comprehensive dominance" in all domains, including land, sea, air, space, cyberspace, electromagnetic, and psychological. Chinese writings espouse an operational method that seeks to paralyze and even destroy critical functions of an enemy's operational system. According to the PLA, the enemy will "lose the will and ability to resist" once its operational system cannot function. The PLA may employ kinetic and nonkinetic attacks to achieve this goal.⁵⁰ PLA writings identify four target types to paralyze the enemy's operational system. The first consists of strikes to degrade or disrupt the enemy's information flow. The second attacks essential factors, such as command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) and firepower capabilities. The third consists of strikes against the physical nodes of the C4ISR and firepower operational systems. Finally, strikes could target the time sequence or tempo of the enemy's operational architecture.⁵¹

Approach

Doctrinal writings and evidence from PLA training suggest some features of the PLA's operational approach. In combat, the PLA may deploy and maneuver as an integrated joint force, with specific capabilities that are purpose built for the contingency. It may first seek to seize the information advantage by disrupting or destroying the adversary's flow of information and establishing superior ISR. Combat forces could then target key nodes with precision munitions, with the aim of establishing comprehensive dominance. The goal is to render the enemy incapable of resisting, not the total destruction of all forces. These features could be seen in major Chinese joint exercises, such as Mission Action 2013 and Joint Action 2015.⁵²

Technological Considerations

The PLA is in the midst of upgrading its equipment and weapons to feature real-time data-networked command capabilities, a process it has called *informatization*. The goal is to have the force fully equipped with such information technologies by 2035. However, Chinese documents also indicate that the PLA is simultaneously seeking to advance to a new form of warfare featuring a higher degree of integration with AI, a process officials call *intelligentization*. The incorporation of AI into all combat and combat support functions could significantly

⁴⁹ State Council Information Office, People's Republic of China, *China's Military Strategy*.

⁵⁰ Jeffrey Engstrom, "China Has Big Plans to Win the Next War It Fights," *National Interest*, February 9, 2018.

⁵¹ Engstrom, *Systems Confrontation and System Destruction Warfare*.

⁵² Cozad, "PLA Joint Training and Implications for Future Expeditionary Capabilities," pp. 10–11.

improve the lethality and effectiveness of PLA combat forces. Sometime soon, U.S. military forces might have to confront a PLA equipped with intelligentized weapons, platforms, and equipment.⁵³

Conclusion

This chapter has reviewed China's strategic and operational approach to realizing its ambition of regional primacy. As noted, the three peacetime shaping, coercive, and combat parts of this approach would work best if they built on one another. Success in peacetime shaping and coercive actions could set the theater for combat operations that might discredit U.S. leadership and establish China as the region's new dominant power. Although there is no evidence that China is devising such a military course of action, it has made clear its regional ambitions, and it is building the capability to fight the U.S. military should conditions change and new incentives arise. In our analysis, we explained why the most-plausible combat contingencies that carried a goal of discrediting U.S. power would likely take place within the context of a fight against a regional country regarded as an ally or partner of the United States.

For the U.S. Army, finding ways to counter China's approach requires attention to all three parts. U.S. successes in aiding regional countries to counter Beijing's peacetime shaping and coercive activities will be important in deterring China from contemplating the potential benefits of risking combat operations. By contrast, a United States that had clearly lost the struggle in the peacetime shaping and coercive parts of the contest could find itself poorly positioned to defend U.S. interests and respond effectively to a combat contingency that involved China in the first island chain.

More broadly, our assessment of China's approach to pursuing its interests in peace and war held several major implications for the development of concepts, both in general and to support a revised vision of power projection. First, this analysis made clear that China seeks first and foremost to achieve its goals *short of* war if it possibly can. Through ongoing competition and influence seeking and the use of expanded coercion in selected cases, Beijing hopes and intends to realize its goals without going to war. U.S. Army concepts and power projection approaches cannot ignore the "Phase 0" or competition below the threshold of war domain. Moreover, Army advantages in military-to-military relations with U.S. Indo-Pacific Command (INDOPACOM) allies and partners position the service well to counter this Chinese peacetime shaping during the competition phase by maintaining or even facilitating increased U.S. joint force presence in the region as a steady-state deterrence against Chinese aggression.

⁵³ Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020*, p. 118.

Second, China clearly places a strong emphasis on information as a linchpin of its strategies, both for competition and then, if necessary, in wartime. All the U.S. services will need to take account of this fact, but the Army may have opportunities for especially significant roles in the information domain. Our concepts reflect this fact.

Third, China's strategic objectives include territorial claims that are incompatible with the official national goals and interests of other regional states. The coercive strategies central to its overall regional push for hegemony are already alienating other countries. China's goals and approach, in other words, magnify the importance and potential for an effective U.S. multilateral strategy in the region—and for Army concepts grounded in working with, and improving the capabilities of, allies and partners.

Fourth and finally, the many ways in which peacetime and wartime scenarios could unfold, and China's wide range of tools and potential operational approaches, call for significant flexibility and modularity in U.S. regional concepts. The Army has a wide range of force types, capabilities, activities, and other tools that can be part of such a flexible toolbox, and the spirit of such adaptability heavily influenced our approach to concepts and to revised approaches to power projection.

What is clear from the above overview of China's way of war is that any future U.S.-China conflict will certainly require the U.S. Army. For example, China's development of a robust ballistic missile capability under the PLA Rocket Force is intended to conduct precision strikes on key adversary facilities, including U.S. air bases in the region, such as on Okinawa and Guam. This directly relates to the U.S. Army's responsibility for theater missile defense, which already includes a THAAD battery in Guam. The Chinese focus on achieving information dominance by degrading adversary C4ISR capabilities also relates to the Army's advantages in C2 and the need to compete in the information domain. This suggests that strengthened Army C2 capabilities in support of the joint force would also strengthen U.S. defenses, and perhaps U.S. deterrence, against China.

Identifying Key Operational Problems

Having examined global and regional trends in Chapter 2 and Chinese strategies and operational approaches in Chapter 3, we now turn to the U.S. response—specifically, the basis for potential Army concepts in the Indo-Pacific. Although this research aims to provide new concepts for the employment of land power in the region, it cannot be developed in isolation or without context. Existing strategic objectives, doctrine, posture, and other real-world conditions must be considered.

In this chapter, we first briefly examine current U.S. strategic objectives in the Indo-Pacific. We then argue that the U.S. Army has the innate capability to contribute to more of those objectives than its emerging MDO doctrine addresses. Finally, we articulate three regionally relevant operational problems that might motivate the development of further concepts that harness Army capabilities to address U.S. strategic objectives in the region.

U.S. National and Military Objectives for the Region

Our review of U.S. strategy documents,¹ Army regional strategy documents, and other sources suggests the following set of national objectives in the region:

- Sustain key relationships with other nations essential for U.S. interests in the region—both bilaterally with the United States and multilaterally among key actors in the region.
- Preserve the regional and global economic relationships, institutions, and norms critical to the functioning of a stable world economy.
- Sustain the institutions, norms, and relationships essential to a rule-based order, and encourage U.S. leadership of key elements of that order.
- Prevent Chinese achievement of specific diplomatic or geopolitical objectives in the competition short of armed conflict, including
 - fracturing U.S. alliances
 - gaining significant additional access and facilities for military power projection

¹ Most such documents contain only very general statements of interests and objectives. See, for example, DoD, *Indo-Pacific Strategy Report: Preparedness, Partnerships, and Promoting a Networked Region*, June 1, 2019.

- obtaining a level of influence over regional states to provide a veto power over any national policies
- gaining assent to Chinese claims of sovereignty over areas and features in the South and East China Seas.
- Deter and, if necessary, defeat large-scale aggression.
- Promote key values of human rights, democratic governance, and the rule of law.

We then considered the military activities, means, and ways through which the joint force could contribute to these broad national objectives.² These include the following:

- *Provide clear, persuasive, and tangible evidence of U.S. political commitment* to the region and ability to support friends and allies in the competition and warfighting phases.
- *Demonstrate the value and desirability of the values and norms associated with U.S. partnership*—for example, more-reliable security partnerships when dealing with a country that operates within the rule of law and the higher quality of personnel exchange programs when partnering with an open democracy.
- *Promote multilateral coordination and security development initiatives* among regional powers, especially but not limited to U.S. allies.
- *Provide forces, capabilities, technologies, and facilities within the region* specifically tailored to day-to-day competition activities.
- *Strengthen allies and partners who face significant threats* to enhance their ability for self-defense even independent of U.S. operations.
- *Maintain an ability to dissuade, defeat, or impose costs on large-scale aggression against U.S. allies or partners in the region, as called for by U.S. strategy and operational concepts*, whether launched over land or water.

One can immediately observe that most of these objectives do not directly involve the application of kinetic military power. Rather, they emphasize the need to enlist allies and cultivate relationships, reinforce peacetime norms, and conduct other activities in day-to-day competition.

The Army already contributes to such nonkinetic efforts, as is the case when it conducts engagement, train and advise missions, engineering and medical support, and other missions in the Indo-Pacific. Moreover, it is clear from our examination of China's strategic approach in Chapter 3 that countering their efforts during competition will be crucial to preventing the conditions that might lead to large-scale aggression. However, the Army's emerging MDO doctrine does not provide enough guidance to lend coherence and organization to the Army's competition and nonkinetic activities such that they can credibly counter China's activities.

² These categories represent a RAND summary of major purposes for land forces extracted from the U.S. Army and joint force documents referenced above.

Three Operational Problems

The sum of regional trends, Chinese strategies and approaches, and current U.S. thought on operational concept development point to three operational problems that provide new focus to concept development. In this section, we first briefly examine the attributes needed in an operational problem to drive conceptual development. We then articulate the operational problems themselves.

Defining an Operational Problem

Before we delve into the operational problems articulated in this research, it is necessary to define what an operational problem is so that we may understand the attributes that enable it to drive concept development. The Army's doctrine on the operational level of war makes copious reference to the role of problems in driving the operational art but offers no definition outside the lay definition.³ MDO doctrine itself refers to five operational problems that are posed as questions but also offers no definition.⁴ Even a review of the original 1982 version of AirLand Battle (considered to be an exemplar of clear, concise operational doctrine that connects tactics and operations to overall strategy) does not define the idea of an operational problem.⁵

Although we found no authoritative definition of an operational problem to guide the development of ours for this research, the exercise was fruitful in helping us understand the attributes that contribute to conceptual development. First, the operational problem must pose a clear issue for a military force to solve. Second, specificity is required; the problem must provide enough detail about the geographic, political, and adversary context to be more than an abstract exercise. Finally, the problem must be bounded to the operational level; it should not attempt to address the entire strategic context directly.

Having described the attributes of an operational problem, we now turn to the three problems themselves. We selected these operational problems by reviewing policy literature and consulting with colleagues within RAND and at the U.S. Army War College, and we refined the problems in consultation with the project sponsor. These operational problems are

- countering the intensified coercion of Indo-Pacific nations
- responding to the threat of aggression with limited U.S. posture
- supporting a nation contending with a distant border clash.

³ Army Doctrine Publication 5-0, *The Operations Process*, Headquarters, Department of the Army, July 31, 2019.

⁴ U.S. Army Training and Doctrine Command, *U.S. Army in Multi-Domain Operations 2028*, p. 16.

⁵ Field Manual 100-5, *Operations*, U.S. Department of the Army, 1982. It may be that the operational problem of defeating Soviet conventional forces in depth was a widely understood problem in 1982.

These three operational problems were then turned into specific vignettes, described in Chapter 1 and in the following sections, that were used as the foundation for the three roundtables with RAND experts to develop and refine the new Army operational concepts, detailed in Chapters 7–9.

Operational Problem 1: Intensified Coercion of Indo-Pacific Nations

When China chooses to employ force or the threat of force to shape outcomes in specific events, it can employ many components of military and paramilitary power to impose ongoing costs and psychological pressure on specific target countries, such as Taiwan and the Philippines, to coerce behavior and policy change in a discrete period. The leading example of this may be recent Chinese actions around Taiwan, which have significantly increased pressure on the Taiwanese government through a range of actions, including air incursions, maritime maneuvers, informational harassment, and efforts to isolate Taiwan abroad.⁶ This could occur for intermittent periods during peacetime or in a significantly accelerated fashion during a crisis.

To make this problem as precise as possible, we propose a specific scenario or example event to define this problem:

China employs military and especially paramilitary forces to coerce regional countries to accept its primacy in the region. China's efforts are marked by a focus on countries involved in territorial disputes to create the risk of escalation and force target nations to back down. The forces employed in these coercive efforts will commonly be air and maritime assets.

Even this more specific definition allows for a wide spectrum of possible events, ranging from individual military flights that violate target country airspace at the low end to full-scale economic blockades short of war at the high end. All these actions will be designed to gradually force target nations to abandon norms and rights established by the U.S.-led international order, including freedom of navigation and adherence to international standards delineating territorial seas and airspace.

Specific examples of actions that would fall under this operational problem include

- persistent air and maritime incursions into airspace and territorial seas claimed by other nations (such as around Taiwan or the Senkaku Islands)
- repeated physical intimidation of other countries' maritime assets in contested areas (such as the China Coast Guard or fishing fleet shouldering and attempted ramming of Vietnamese or Indonesian fishing boats, or unsafe close operation in the vicinity of U.S. Navy vessels undertaking freedom-of-navigation operations)

⁶ Yimou Lee, David Lague, and Ben Blanchard, "China Launches 'Gray-Zone' Warfare to Subdue Taiwan," Reuters, December 10, 2020.

- large-scale swarming of fishing vessels and other paramilitary assets to harass claimants to disputed maritime features (such as Chinese fishers landing on the Senkakus or similar activities around Scarborough Shoals)
- use of targeting radars and other military systems to “paint” (identify and mark) and intimidate aircraft or ships from other countries
- announcement of an intent to physically enforce claimed air defense identification zones, such as the one spanning the South China Sea
- enforcement of limited maritime exclusion zones
- application of comprehensive quarantine or blockade of target countries, such as a potential blockade of Taiwan to force its capitulation.

In dealing with this class of problem, the United States would be called on to take steps that reaffirm U.S. commitment and capability and that mitigate, or actively suppress, the coercive actions. The military capabilities involved would vary, and it is possible that, in some cases, such scenarios would generate a partner request for temporary local presence well beyond the steady-state regional presence in place as part of the U.S. response to the general strategic challenge. Moreover, the primary domain where this operational problem will play out is in the maritime or air domains, but an effective response will likely require capabilities resident in the land power component as well. Army cyber and information operations capabilities, for example, may provide critical capabilities or added capacity. This operational problem could therefore call for very different forces and capabilities than the maneuver and fires capabilities that the Army has emphasized in Europe and in Korea scenarios.

Scenario Overview

For this operational problem, we developed a roundtable scenario set in 2028 with Chinese maritime coercion against the Philippines over a disputed South China Sea feature, specifically Scarborough Shoal. There has been a notable increase in Chinese “civilian” fishing vessels around the disputed feature, and U.S. intelligence confirms the otherwise obvious fact that these are actually Chinese maritime militia, under the direct control of the Chinese military. Manila demands their immediate departure and sends its own vessels to push them out. However, Beijing responds by deploying China Coast Guard assets to “defend” the “civilian” fishing fleet, with PLA Navy surface vessels parked nearby. China also begins a massive disinformation campaign, seeking to undermine Filipino public support. This standoff leads Manila to ask for U.S. assistance in resolving the growing crisis.

The United States agrees to support its ally but faces several key challenges in this scenario. First, it has no peacetime presence in the country, meaning that it will have to deploy troops quickly with limited preexisting infrastructure. Second, no other regional countries, including other South China Sea claimants, view it in their interest to confront Beijing for someone else’s territorial claims, so they refuse to support Manila publicly and deny access to U.S. forces. Third, the U.S. joint force has allocated only limited lift capacity to deploy troops due to the currently limited nature of the crisis.

The U.S. national command authority authorizes a deployment of Army troops under the following conditions. First, the overarching objective is to reassure the Philippines (and the broader region) about U.S. commitment and deter a Chinese attack or complete seizure of the disputed feature. Second, the Army is ordered to deploy to the Philippines as quickly as possible while presenting a credible deterrent against China. Lastly, U.S. troops are not allowed to engage in kinetic operations except in self-defense.

Operational Problem 2: Threat of Direct Chinese Military Action with Limited U.S. Posture

In a wartime scenario, the United States must defeat large-scale air and maritime military action against allied or partner countries,⁷ conducted with comprehensive multidomain or systemic interference and attacks in support. And it must do so from a distance, without significant regional peacetime presence of any substantial combat power, with severe limits and vulnerabilities applying to strategic deployment assets and processes, and without the ability to defeat air defense and operational strike capabilities close to the Chinese mainland in the first days or weeks of war.

This operational problem is a statement of the basic U.S. warfighting challenge in the region, in relation to the most significant threat involved in scenarios such as a Taiwan invasion, an attack on Japanese-administered islands in the East China Sea, or an attack on the Philippines or other regional state in the South China Sea. These could involve a full-scale invasion but need not always; in some cases, even involving Taiwan, the attacks could be coercive or punitive and designed to inflict pain short of an outright invasion.

The essence of the problem emerges in its important qualifications. The challenge is not merely to defeat or decisively mitigate military action launched primarily in the air and maritime domains but to do so assuming key constraints: Regional states are unlikely to allow the United States to maintain a major combat capability in theater during peacetime; transport of heavy military forces from the continental United States (CONUS) to the theater will be slow, vulnerable, and limited by U.S. sealift shortfalls; and denied areas near the Chinese mainland will be difficult to penetrate in the first days or weeks of a conflict, given limits on available U.S. strike assets and other factors. The essence of this operational problem is to achieve U.S. goals under these demanding assumptions:

⁷ This version limits the operational problem to air attacks and seaborne military action. Clearly, Korea offers a ground scenario, but basic land defense against a North Korean ground incursion does not offer the stressing quality of the multidomain-focused problem here, limiting our ability to develop additional concepts for the Army. Any other land scenarios (e.g., India, Vietnam) would be peripheral to U.S. military planning and likely be focused on U.S. air and maritime contributions to countries with large ground forces of their own. Even in a Taiwan scenario, moreover, challenges of transporting large U.S. ground combat forces—and the potential (not yet realized) for Taiwan to supply nearly all land forces required for defense through well-trained, well-supplied active and reserve forces—mean that at least the initial U.S. role will be primarily air and maritime in character (as well as supportive domains, such as cyber and space capabilities).

Defeat a maritime and air-transported intervention or full-scale invasion of contested territory in the Indo-Pacific, involving the full application of Chinese strike and A2/AD systems, the full application of PLA Air Force and PLA Navy assets, and at least 250 landing craft and invasion vessels and 500 fixed- and rotary-wing transport aircraft; perform this mission with as little as 72 hours of unambiguous warning.

This operational problem includes variants short of complete invasion scenarios. For example, China may conduct a blockade of Taiwan to impose its will rather than simply launching an invasion. The United States needs concepts flexible enough to support the projection of power into a range of scenarios.

Scenario Overview

For this operational problem, we developed a roundtable scenario of a 2028 Chinese invasion of Taiwan. Although there was some political buildup of cross-Strait tensions to Beijing's decision to invade, the U.S. joint force was given limited time to deploy ahead of the initiation of China's joint firepower strike campaign.

The U.S. national command authority has decided to intervene on Taiwan's behalf to defend the island democracy and reaffirm U.S. commitment to the region. Due to the expected initial Chinese advantage of time, the national command authority has ordered the joint force to attempt to deny the invasion but be prepared to fight a protracted conflict if the initial landing succeeds. The Army faces several key challenges. First, other regional countries have provided only limited support to Taiwan and are thus limiting U.S. access for the warfight. Second, the joint force is allocating only limited lift for the U.S. Army, balancing competing demands from all of the services. Moreover, the U.S. intelligence community assesses that there is a high threat to U.S. lift, since the Chinese military is already prepared to initiate strikes. Third, Chinese cyberattacks have already degraded regional C4ISR. Fourth, Army long-range precision fires (LRPF) stockpiles in INDOPACOM are limited to the first 30 days of a conflict, and it is unclear whether the U.S. national command authority will allow mainland strikes.

Operational Problem 3: Distant Border Clash

China's aggressive actions to assert its claims in the Indo-Pacific even affect nations with large military establishments, such as India. Recent incursions and melees in the Galwan Valley on India's borders with China are the most prominent examples of this.⁸ Indian geopolitical standing and military capabilities are more substantial than those of some other powers that China targets. This suggests that Chinese policymakers might be more circumspect to avoid unwanted escalation; nevertheless, the tensions and dynamic of tension and crises between

⁸ "Galwan Valley: China and India Clash on Freezing and Inhospitable Battlefield," BBC News, June 17, 2020.

China and other nations must also be considered when developing Army operational concepts.⁹ The crux of this problem, therefore, is defined as follows:

Demonstrate substantial commitment and support to a geopolitically and militarily powerful partner nation being coerced by China and operating in geographically complex terrain without appreciably contributing to the risk of escalation.

This type of operational problem this raises the question of how the United States can support such a partner. A nation with a large military establishment of its own might not need or desire many enabling capabilities that the U.S. Army can provide, even if its strategic interests align closely with American ones.¹⁰ There can be military components to a U.S. response; the challenge is identifying ones that strongly signal support while not supplanting the capabilities of the nation being targeted by China. Similar dynamics of foreign policy nonalignment are at play for Indonesia and Vietnam, two more envisioned U.S. partnerships, though India's military is certainly more capable.

Another practical consideration in this operational problem is the geographic context, which differs significantly from the first operational problem. Unlike that problem, the geography of this problem is clearly on land. However, the distances and inaccessibility of the distant border regions between India and China create obvious challenges for the practicality of Army contributions, in addition to geopolitical factors.

Scenario Overview

For this operational problem, we developed a 2028 scenario of a large-scale Chinese military buildup along the disputed border with India, with Beijing's apparent intent to pressure New Delhi into a more favorable negotiating position or otherwise further consolidate new gains on the ground. U.S. intelligence estimates suggest a potential total Chinese force of 30,000 troops that could advance across the current de facto border upward of 20 miles. Coupled with this military buildup, there are electrical outages in major Indian cities that are suspected to be caused by Chinese cyberattacks.

India welcomes U.S. support but within strict constraints, both to avoid escalation with China and due to India's traditional nonaligned foreign policy and growing nationalism. First, any U.S. deployments to India must be small and low profile. Second, the Indian government will not allow any U.S. offensive kinetic weapon systems, including LRPF, into Indian territory. Third, the Indian military has already convinced Indian political leadership that it can handle the actual warfighting, so what it needs from the United States are mostly value-added "exquisite" capabilities, such as cyber defenses. The U.S. national command authority agrees

⁹ Rafiq Dossani, "Why Tensions Between China and India Won't Boil Over," *National Interest*, February 2, 2021.

¹⁰ The dynamic for advanced powers is particularly nuanced. See, for example, Jonah Blank, *Regional Responses to U.S.-China Competition in the Indo-Pacific: Indonesia*, RAND Corporation, RR-4412/3-AF, 2021.

to these conditions and further directs U.S. troops to avoid any direct engagement with the Chinese military, so the United States is limited to an advise and assist role.

The Baseline U.S. Strategic Problem: Arresting Chinese Efforts at Regional Hegemony

Underlying these operational problems is a baseline strategic problem: China's intensifying application of all instruments of power in an effort to fatally weaken U.S. geopolitical and military presence in the Indo-Pacific. If left unchecked, these activities can gradually produce a regional context in which the United States will be unable to conduct effective joint military operations. More broadly, a context will arise in which U.S. economic and political influence will be increasingly shut out—a denied environment for U.S. national power. If Beijing's strategy succeeds, the peacetime shaping and coercive activities we described in Chapter 3 will do the primary work of denying the region to U.S. military power.

The United States must integrate this broader strategic challenge into its thinking about operational concepts in part because the Chinese challenge in the Indo-Pacific is very different from the Soviet Cold War threat in Europe. China is developing a capacity for offensive military action, but our analysis in Chapter 3 suggests that China's default strategies do not involve military aggression. Beijing seeks to gain predominant economic clout in the region and beyond and predominant diplomatic and global institutional influence as the centerpieces of its drive for regional hegemony. Whereas the Soviet Union was almost solely a military threat to the North Atlantic Treaty Organization by the 1970s, China is *primarily* a nonmilitary challenge.

The problem is especially intense because China can offer far greater economic enticements—and threats of punishment—to countries in the region than the United States can. Indo-Pacific nations generally depend far more on China for trade and tourism, and in some (but not all) cases, foreign investment. In the competition for influence, the United States will simply not be able to wean regional countries of their dependence on economic relations with China—which means that the constraints on peacetime cooperation are likely to persist.

This foundational strategic challenge suggests that peacetime competition rather than military operations will be the main arena of contestation. This overarching strategic challenge is likely to demand the continuation of many Army activities ongoing in the Indo-Pacific during the time frame of this study, according to previous RAND work summarized in the box. The Army should work to align these ongoing activities to more closely contribute to solving the operational problems we present here, including the employment concepts we present in Chapters 7–9.

These requirements provide a critical baseline for the development of operational concepts to deal with more-specific operational problems. Those concepts should build on the persistent regional competitive roles and missions likely to be performed by the Army and integrate its crisis or warfighting approaches with that foundation.

Assessing the Operational Problem Context

The operational problems in this chapter are all instantiations of a baseline strategic challenge—countering growing Chinese hegemony in the Indo-Pacific—and no problem is the Army’s to solve alone. Air and maritime power are likely to make considerable contributions, and nonmilitary power even more so. However, we judge that the three operational problems identified above have enough breadth to enable the development of substantive, detailed operational concepts for the U.S. Army in the Indo-Pacific.

More broadly, we observe that the general strategic challenge and the operational problems are interrelated. The United States’ ability to solve the three discrete operational problems effectively will depend strongly on its ability to succeed in the underlying strategic challenge. Leaving the first challenge unaddressed may make the operational problems exceedingly difficult to tackle or even make responsive U.S. missions irrelevant if the Asian countries decide to abrogate or downgrade U.S. security ties.

As we move to address these operational problems in the following chapters, we must take care to articulate employment concepts such that they

- clearly address the strategic purposes articulated at the beginning of this chapter
- have an explicit theory of success that allows policymakers and Army leaders to see the connection between the concept and its ties to strategy and (to a lesser degree) tactics.

Persistent U.S. Army Competition Phase Roles and Missions in the Indo-Pacific

Role or Mission

- Regional presence
- Partner military engagement
- Long-term relationship building

Examples

- Permanent and rotational stationing of units
- Exercises and train-and-advise missions
- Senior-leader visits and professional military education—international military education and training exchanges^a

^a Lin et al., *Regional Responses to U.S.-China Competition in the Indo-Pacific*.

Finally, we note that the analytical efforts we are undertaking in this research are not meant to supplant MDO and ongoing Army efforts. Rather, we see them as a means of advancing MDO to its next iteration: a doctrine that unifies how the Army can contribute to day-to-day competition, as well as armed conflict.

Constraints on Land Power in the Indo-Pacific

As the United States considers the possible uses of land power in the Indo-Pacific region, it confronts several major constraints. Some of these stem from competitor activities: China has developed its force since the 1995–1996 Taiwan Straits Crisis specifically to counter U.S. military capabilities, and China’s increasingly sophisticated and powerful reach throughout the region establishes significant risks for U.S. forces and sustainment activities. This is typically referred to as the A2/AD threat.

There are, however, many other constraints on U.S. employment of land forces in the region. Some of these stem from physical (geographic, maritime terrain) challenges of operating an expeditionary force far from U.S. shores. Some emerge from regional political considerations, which may affect the access granted by partner and allied nations before or during conflict.

So far, however, general critiques of U.S. military plans and intentions in the region have lacked sufficient analytical rigor to provide real guidance to U.S. concept developers. This limits their utility for developing new operational concepts and measuring their effectiveness against these constraints. To rectify this, we leveraged unclassified data, existing analyses, and other resources to characterize these constraints with as much detail as possible.

In some cases, the resulting constraints could be framed specifically, if the data allowed (for example, the ranges of time required for sealift to reach key Indo-Pacific ports). In other cases, the constraints that will emerge in actual scenarios are so case specific, and based on factors that are so variable, that the proposed guidance reflects our best expert judgment of the range that the Army should consider. The analysis supporting this report provided the best possible range estimates of plausible constraints in these scenarios, not precise and specific findings about exactly what these values would be.

What Defines a Constraint?

To start clarifying constraints for analysis and concept development, it is important to understand two factors. First, what defines a constraint? Second, what is the analytical goal sought when selecting, articulating, and using constraints for this research?

Constraints are the security factors that will bound the operational problems. These factors are present in the Indo-Pacific, affected by the Chinese adversary, and have relevance on the Army's intended operational style (MDO). These are not immutable attributes in the region, such as distance, weather, or geography.

Rather, constraints can be affected by actors. Constraints might be affected by the development of technologies or weapon systems, the cultivation or degradation of relationships between countries, or the manner in which military forces are organized and employed. They may be affected by the Army, allies, partners, and most certainly by the Chinese adversary that is the focus of this research.

Our observations of Army thinking and writing on MDO in the Indo-Pacific region suggest that constraints are implicitly discussed as part of a solution that addresses the Chinese threat. This implicit nature can be problematic for two reasons. First, the method by which a constraint is discovered is not apparent and might not be thorough or systematic. Second, constraints are not often examined thoroughly, or they might not be deliberately considered in the course of discussing a potential solution. Moreover, constraints can manifest themselves in other ways that have not yet been discussed in the community.

By separating constraints from their context and thoroughly drawing out their meaning, we can use them to more thoroughly examine specific Army operational problems and to assess the employment concepts that flow from them. This is a methodological attempt to clarify them and use them more explicitly and thoroughly.

Selecting and Characterizing Constraints

The constraints selected for this research were drawn from a systematic review of existing analyses, reports, journal articles, and informed commentary on the challenges of operating in the Indo-Pacific region. They encompass themes that were prevalent across this body of work, and we categorized them in consultation with the project sponsor. In each case, we describe the characteristics of the constraint and how they may affect U.S. Army operations in the region, uncertainties, and binding considerations for concept development.

The characterization of the binding considerations is particularly important to note. The specificity we sought to imbue our concepts with demanded very specific details about how each constraint would affect Army operations. For instance, it was important to note exactly how long it would take a given Army capability to arrive in theater. However, some details were impossible to determine ahead of time. Others would be difficult and time-consuming to quantify. To balance the need for specificity with the feasibility of conducting this research, we deliberately chose a representative characterization, often quantitative, to stand in for the entire constraint for the purposes of concept development. For instance, our analysis of sustainment constraints (detailed in Appendix D) concluded that air base sustainment needs, airfield throughput limits, and the threat environment will result in limited (but not fore-closed) opportunities for air-delivered sustainment. Thus, we set a limit of eight C-17 sorties

per day (i.e., the throughput for a C-17 squadron assuming a nearby intermediate staging base [ISB]) for sustainment needs for the intensified coercion operational problem. This might not be the case in an actual crisis, but the specificity drives deeper thinking on concept development without requiring needlessly detailed sustainment calculations on every imaginable scenario of intensified coercion. The same thought process was used to analyze factors and summarize other categories of constraints.

Summary of Constraints

For the purposes of this analysis, we considered six categories of constraints to serve as guidance for the concept developers:

- *Partner access constraints.* Many countries in the region place strict limits on their military cooperation with outside powers and the degree to which they are willing to allow foreign military forces on their soil. In other cases, even some close U.S. allies may be unwilling to become a staging base for active combat operations in the event of war. Moreover, existing models of forward-deployed U.S. forces are not optimized to effectively protect partner nations from Chinese cyber and offensive fires should they become involved in a conflict.
- *Limits on the practical employment of fires.* In light of the Army's emphasis on the role of LRPF in INDOPACOM, we assessed potential of LRPF for likely Army missions in the region, considering ranges, possible employment locations, and effects of specific systems. This analysis relied heavily on several previous and parallel RAND studies on long-range fires. Similar analysis could be extended to other Army capabilities, such as large-scale maneuver forces, for future research.
- *Sustainment.* Any Army posture or wartime operations in the region must rely on a foundation of adequate sustainment. The architecture for such a sustainment network does not yet exist in any meaningful way outside northeast Asia.
- *Joint force interactions.* The Army's role in the Indo-Pacific is specifically constrained by the tasks that it owes the wider joint force in both peace and war. The Army's executive agent and support to other services functions are substantial and will be especially critical to joint force operations in this theater. The resources, units, personnel, and lift capacity required to fulfill these roles serve as a constraint on other possible Army roles and missions.
- *Lift and force flow.* The United States continues to have strict limits on the amount of both strategic or intertheater and intratheater lift capacity. Moreover, U.S. maritime strategic lift is increasingly vulnerable to potential interdiction from both virtual means (such as cyberattacks to disrupt ports and navigation) and kinetic attack, both in port and at sea. Many key U.S. transit hubs in the region are vulnerable to missile attack. All of this creates a significant constraint on the speed and volume of land force capacity that the United States will be able to deploy.

- C2. U.S. joint force operations in this immense region will be highly dependent on secure and effective C2 networks. Targeting such networks with both cyberattacks and kinetic attacks is a major stated priority of Chinese warfighting doctrine. Limits to persistent and effective C2 will impose another constraint on U.S. land power.

Tables 5.1 and 5.2 summarize the assumptions we made with respect to the constraints placed on concept development for this research. Table 5.1 focuses on limits to partner support for U.S. regional presence, one of the most strictly binding of all the constraints. Table 5.2 surveys the remaining constraints considered for this analysis. All constraints are tailored to address specifics related to the operational problems described in Chapter 4. This concept development and scenario assumptions drew on our analysis of likely U.S. Army constraints for future INDOPACOM operations, detailed further in Appendixes A–G.

These constraints are purposefully challenging. This reflects China’s rising military and paramilitary capabilities and forces our concept development to be especially thoughtful and innovative in developing solutions. Most constraints are binding, but there are several (such as C2 and signature management) that only identify factors to be taken into consideration during concept development.

Taken together, the constraints establish tight bounds on the nature of Army roles and missions in the Indo-Pacific. Specifically, apart from the specific limits outlined in the figures below, these constraints suggested to us the following:

- The U.S. Army should not count on a large, permanent (or even heel-to-toe rotational) presence with combat units in any additional countries unless China’s behavior or strategic considerations regarding partners radically change.
- It is unlikely that the Army will be able to base large numbers of LRPF (or even short-range) systems in most of these countries in peacetime.
- Unless they are the direct target of sustained Chinese coercion, most countries in the region will be extremely hesitant to allow the United States to conduct direct combat operations, or even large-scale force sustainment operations, from their soil.
- In the first three months of any conflict, the Army will be strictly limited in the amount of additional combat power it will be able to flow into the theater. Concepts that depend on the arrival of very large Army combat formations of multiple heavy brigade combat teams (BCTs) are unlikely to align with these constraints, at least not on a time scale that matches the timing of future contingencies.
- Given current regional sustainment architectures and Army capabilities, the Army will be hard-pressed to sustain significant combat operations outside northeast Asia.
- Future concepts must deal with a potent dilemma affecting ground force operations in this region: The Army is likely to be forced to operate in distributed, dispersed, and concealed ways, but doing so will strain the capacity of C2, sensing, and combat coordination networks, as well as sustainment and intratheater lift capabilities, especially when all are under cyberattack and kinetic attack.

TABLE 5.1

Scenario Assumptions About Constraints on Ally and Partner Roles in Peacetime, Crisis, and Conflict

Partner	Basis for Willingness	Peacetime Access, Posture, and Participation Assumptions	Operational Problems 1–3: Access and Participation Assumptions
Australia	<ul style="list-style-type: none"> Formal U.S. ally Extensive exercises, joint training, other forms of engagement Long-standing ties Australia has supported every major U.S. war 	<ul style="list-style-type: none"> All overflight, transit rights Access to current facilities in Australia Potential for slightly enhanced posture (modest increase to facilities, forces) Recurring exercises and rotational deployments Steady-state deployment of noncombat force elements and current combat elements (U.S. Marine Corps) Rotational deployments of additional combat force elements up to brigade No permanent deployment of land-based, long-range strike assets 	<ul style="list-style-type: none"> Full access rights would be provided during crisis In maritime crisis, Australia could provide assets as part of multilateral response across multiple mission areas In distant crisis involving maritime and land components, Australia would contribute modest direct support forces (e.g., squadron or battalion size) with strict rules of engagement In wartime, a direct attack on Australia would trigger U.S. alliance and be fully engaged In wartime scenario involving distant Chinese aggression, Australia would contribute indirect support (access rights, logistical and ISR support) but not send combat units
India	<ul style="list-style-type: none"> Major Defense Partner status since 2016 Significant upgrades in recent years—i.e., the Communications, Compatibility and Security Agreement (COMCASA) and Logistics Exchange and Memorandum Agreement Challenging official policy of nonalignment 	<ul style="list-style-type: none"> Increasingly comfortable with joint exercises Access for refueling under Logistics Exchange and Memorandum Agreement U.S. B-1B bomber made first stop at Indian base No stationing of troops 	<ul style="list-style-type: none"> In a crisis scenario, support would likely be in line with preexisting agreements but perhaps not surpass them An attack on India would not necessarily result in Indian outreach to the United States Wartime support may be very similar to crisis-level support—i.e., limited access and other forms of covert or quiet support to U.S. military
Indonesia	<ul style="list-style-type: none"> Nonaligned status No access agreements in place Limited interests beyond immediate Indonesian shores 	<ul style="list-style-type: none"> No stationing of troops Limited defense and security exchanges with the United States Prioritized balancing of ties with China 	<ul style="list-style-type: none"> Crisis scenario involving Indonesia would not necessarily result in U.S. outreach Wartime effort against Indonesia has higher likelihood of U.S. engagement Neither crisis nor wartime that is not focused on Indonesia is likely to be supported by Jakarta

Table 5.1—Continued

Partner	Basis for Willingness	Peacetime Access, Posture, and Participation Assumptions	Operational Problems 1–3: Access and Participation Assumptions
Japan	<ul style="list-style-type: none"> • Key ally of the United States in the Indo-Pacific • Domestic justification needed for U.S. power projection from Japanese shores as part of Tokyo's self-defense 	<ul style="list-style-type: none"> • Routine involvement in joint exercises • U.S. troops based throughout Japan, including on Okinawa • Recent discussion on Taiwan Strait scenario 	<ul style="list-style-type: none"> • Japan is likely to support the United States in any crisis scenario, but within the bounds of its constitution based on self-defense; operations outside strict self-defense would have to be justified • Japan might be more cautious during wartime to support for fear of retribution and constitutional restraints, but Tokyo is likely to support at a high level regardless, given the value Tokyo places on the alliance
Malaysia	<ul style="list-style-type: none"> • Nonalignment policy, though increasingly concerned about the South China Sea • A member of the Five Power Defence Arrangements (FPDA), which could be leveraged for further access 	<ul style="list-style-type: none"> • Through FPDA, Australian troops forward deployed to Butterworth Air Base; occasional U.S. access as well • Limited bilateral joint exercises and exchanges 	<ul style="list-style-type: none"> • Malaysia is unlikely to provide much access to the United States, if any, during crisis scenario, even if involving Malaysia itself • The situation is probably the same for a wartime scenario • FPDA may nevertheless provide some access through allies and partners
Micronesia and the broader Oceania	<ul style="list-style-type: none"> • Large area, but focus on Freely Associated States (FAS) is prudent • FAS Compacts of Free Association (COFAs) with United States, granting the latter near-exclusive access to area the size of CONUS; near U.S. troops stationed on Guam • COFA expiration risk; could spell problems if China exploits 	<ul style="list-style-type: none"> • COFA-enabled peacetime operations and forward deployment of troops and equipment, except for weapons of mass destruction. • Outside of COFAs, U.S.-maintained multidecade land lease on Marshall Islands' Kwajalein Atoll for the Ronald Reagan missile defense test site 	<ul style="list-style-type: none"> • FAS are likely to support United States no matter if crisis or wartime scenario • However, United States cannot preemptively declare war on their behalf

Table 5.1—Continued

Partner	Basis for Willingness	Peacetime Access, Posture, and Participation Assumptions	Operational Problems 1–3: Access and Participation Assumptions
Philippines	<ul style="list-style-type: none"> • Key ally against China; turned unreliable because of anti-America and pro-China President Rodrigo Duterte • Duterte's term ending in 2022, but front-runner is his daughter 	<ul style="list-style-type: none"> • Jeopardized peacetime access by Visiting Forces Agreement (VFA) and Enhanced Defense Cooperation Agreement (EDCA) renegotiation challenges • Nevertheless, extremely pro-U.S. and anti-China Philippine defense establishment and population • United States the preferred defense partner; robust exercises and security exchanges in spite of Duterte 	<ul style="list-style-type: none"> • If Philippines is facing crisis or attacked, it will look to the United States to trigger the Mutual Defense Treaty (MDT) • Philippines is likely to provide U.S. access in a crisis or wartime, threatening its national sovereignty and territorial integrity • Duterte-led government is unlikely to support the United States in a crisis beyond Philippine borders
Singapore	<ul style="list-style-type: none"> • Major security and defense partner • Strongly prefers low-key assistance to U.S. military • Highly capable and competent partner 	<ul style="list-style-type: none"> • Peacetime access to Changi Naval Base for logistics and maintenance • Chinese submarine facility near Changi, but the United States remains preferred partner 	<ul style="list-style-type: none"> • During crisis scenario, Singapore is likely to support the United States, albeit quietly and depending on the optics • Wartime support is also likely but, again, quietly and depending on the optics
South Korea	<ul style="list-style-type: none"> • Key ally in northeast Asia, though primarily focused on North Korea • Has consistently expressed support for U.S. Indo-Pacific strategy, suggesting that China is an adversary 	<ul style="list-style-type: none"> • Robust peacetime access and includes basing for forward-deployed troops and routine defense and security exchanges 	<ul style="list-style-type: none"> • South Korea is likely to support the United States in a crisis scenario regardless of whether it directly pertains to the security of South Korea or North Korea • Wartime support is also likely, given the strength of the alliance and state of South Korea–China relationship

Table 5.1—Continued

Partner	Basis for Willingness	Peacetime Access, Posture, and Participation Assumptions	Operational Problems 1–3: Access and Participation Assumptions
Thailand	<ul style="list-style-type: none"> • Key ally in Indochina, but relations under significant strain after successful military coup in 2014 • During Donald Trump administration, warming trend • Regardless, still believes that the United States is partner of choice • Does not see China as much of a threat and has instead enhanced defense ties with Beijing 	<ul style="list-style-type: none"> • Fairly good peacetime access; for example, granted access to U-Tapao air base in most cases • Cobra Gold multinational exercise, unaffected by U.S. sanctions against new military regime starting in 2014 	<ul style="list-style-type: none"> • Crisis access will largely depend on the optics of the situation and whether the crisis directly affects Thailand • Wartime access will also largely depend on the optics of the situation and whether the conflict directly affects Thailand
Vietnam	<ul style="list-style-type: none"> • Burgeoning U.S.-Vietnam security partnership, mostly the result of growing Chinese assertiveness in the South China Sea • Hanoi’s “four nos and one depend” defense policy as constraining factor for security cooperation, but “one depend” opens the door to bending or breaking the “four nos” • Paramount importance of maintaining delicate balance with China while strengthening security ties with the United States 	<ul style="list-style-type: none"> • Increasingly robust defense and security exchanges • However, no peacetime access to Vietnam beyond annual port calls to Cam Ranh Bay International Port and Danang 	<ul style="list-style-type: none"> • In a crisis scenario, if Vietnam is directly targeted, it is unlikely to provide access because of its history of handling matters independently and competently. • Also, Vietnam would not want to give the United States entrée to Vietnamese soil once again, with the war having ended not even 50 years ago • If crisis scenario is beyond Vietnamese shores, Hanoi is likely to avoid unnecessarily antagonizing Beijing by getting involved • In a wartime scenario involving Vietnam, there is a higher chance that Hanoi would decide to grant U.S. military access to its bases, etc. • Any wartime scenario beyond Vietnamese shores is very unlikely to be supported because of the likelihood of Chinese retribution

TABLE 5.2

Summary of Constraints on Land Power in the Indo-Pacific

Constraint	Guidance for Distant Border Clash	Guidance for Intensified Coercion	Guidance for Threat of Aggression
Fires	<ul style="list-style-type: none"> No split battery operations allowed except for High Mobility Artillery Rocket System (HIMARS), per doctrine Each system is allowed 2 days of supply If systems are emplaced in ineligible terrain, they can be used only once before they are targeted 	<ul style="list-style-type: none"> Concept developers can employ 2 pairs of Standard Missile 6 (SM-6) and Maritime Strike Tomahawk (MST) launchers with 10 missiles per launcher in their concepts if desired 	<ul style="list-style-type: none"> No split battery operations allowed except for HIMARS, per doctrine Each system is allowed 3 days of supply If systems are emplaced in ineligible terrain, they can be used only once before they are targeted Concept developers can employ two pairs of SM-6 and MST launchers with 10 missiles per launcher in their concepts, if desired
Sustainment	<ul style="list-style-type: none"> Airlift is confined to 8 C-17 sorties per day A multidomain task force (MDTF) can self-sustain for 2 days Joint demands will further reduce available sustainment capacity (see the next row) 	<ul style="list-style-type: none"> Airlift is confined to 8 C-17 sorties per day Defense Logistics Agency resupply must come from Guam or Okinawa 	<ul style="list-style-type: none"> Airlift is confined to 8 C-17 sorties per day An MDTF can self-sustain for 3 days Joint demands will further reduce available sustainment capacity (see the next row)
Joint force interactions	<ul style="list-style-type: none"> Army National Guard and Army Reserve units will not be available The Army will fulfill USAF agile combat employment support requirements first 	<ul style="list-style-type: none"> Army National Guard and Army Reserve units will not be available The Army will fulfill USAF agile combat employment support requirements first One Patriot battalion from a composite air defense brigade will be required to support Marine Corps expeditionary advanced base operations 	<ul style="list-style-type: none"> Army National Guard and Army Reserve units available only after 90 days 75% of theater sustainment capabilities allocated to joint force and will be unavailable The Army will fulfill USAF agile combat employment support requirements first One composite air defense brigade will be required to support Marine Corps expeditionary advanced base operations The Army will have only 50% of watercraft available for tasking

Table 5.2—Continued

Constraint	Guidance for Distant Border Clash	Guidance for Intensified Coercion	Guidance for Threat of Aggression
Lift and force flow	<ul style="list-style-type: none"> • All Regular Army INDOPACOM aligned units in AimPoint will require 10 days to arrive in theater • All Army National Guard and Army Reserve INDOPACOM aligned and all Regular Army CONUS aligned units in Aimpoint will require 30 days to arrive in theater 	<ul style="list-style-type: none"> • All Regular Army INDOPACOM aligned units in AimPoint will require 10 days to arrive in theater • All Regular Army CONUS-aligned units in AimPoint will require 30 days to arrive in theater 	<ul style="list-style-type: none"> • All Regular Army INDOPACOM-aligned units in AimPoint will require 10 days to arrive in theater • All Army National Guard and Army Reserve INDOPACOM-aligned and all Regular Army CONUS-aligned units in AimPoint will require 30 days to arrive in theater
C2	<ul style="list-style-type: none"> • If concept developers place headquarters (HQs) >500 km from operational units, they lose 20% of capability, connectivity, sustainment, or timeliness • If concept developers have a span of control >3 subordinate units, they lose 30% 	<ul style="list-style-type: none"> • If concept developers place HQs >500 km from operational units, they lose 20% of capability, connectivity, sustainment, or timeliness • If concept developers have a span of control >3, they lose 30% 	<ul style="list-style-type: none"> • If concept developers place HQs >500 km from operational units, they lose 20% of capability, connectivity, sustainment, or timeliness • If concept developers have a span of control >3, they lose 30%

Employment Concepts for Land Power in the Indo-Pacific

Having articulated specific operational problems in Chapter 4 and enumerated the constraints on the use of land power in the Indo-Pacific in Chapter 5, we now turn to the process of developing the employment concepts that are the objectives of this research. In this chapter, we first discuss the additional assumptions we have made on concept development. We then detail the analytical and creative process of developing the concepts. The concepts themselves are presented in Chapters 7 through 9. During the concept development phase, we also identified four prerequisites for successful implementation of these concepts; those prerequisites are detailed in Chapter 10.

Assumptions for Concept Development

In addition to the operational problems and constraints articulated in previous chapters, we made four assumptions to make our analysis tractable.

First, the *time frame* for our analysis is from the present day (2022) to 2035. This is far enough in the future for Army modernization efforts and new force structures (see below) to be part of the analysis. It is also close enough to the present day that conditions and trends are less likely to change in substantial ways that would render our analysis and resulting concepts irrelevant.

We *considered only one adversary* in terms of strategies, goals, approaches, and activities: the People's Republic of China. Not only does focusing on one adversary make the challenge of concept development more tractable but it also has the virtue of being the most utilitarian approach. China is the pacing threat described in recent national security guidance, and the consequences of not focusing on this threat are the most serious.

We used the *AimPoint Force Structure Initiative as a basis* for available Army units. The AimPoint Force is the force structure the Army anticipated it will have in the 2030 time frame. More-creative employment concepts might result if we did not hold ourselves to the AimPoint Force, but using it as a basis grounds our research in ongoing efforts in the Army. The version of AimPoint we used was current as of March 2021.

Finally, we assumed that *no new technologies* beyond those already programmed would be introduced in this time frame. We considered all emerging technologies that have been publicly revealed, such as the Long-Range Hypersonic Weapon, Terrestrial Layer System (TLS), or other modernization programs that are expected to be available to the Army in the mid to late 2020s. Technologies that remain in the conceptual phase, such as quantum communications, were not considered.

Approach

Keeping in mind the operational problems articulated in Chapter 3 and the considerations mentioned in Chapter 5, we turned to the process of developing the employment concepts themselves. Our goal was to establish conditions in which ideas would be rooted in a clear appreciation for the operational problems and their constraints but offer enough leeway for creative approaches. The research team adapted practices from processes for commercial startup technology product development and matched with internal RAND experts to balance structured development with imagination and creativity,¹ resulting in the following steps:

- *Concept pitch development:* We invited one or two RAND experts to develop a draft concept to address one of the three operational problems. Each expert team was provided with the summaries of an operational problem, competitor approach and constraints analyses, and an AimPoint list of available units. Teams were asked to develop a draft pitch that included a narrative of their concept, its theory of success, how it addressed each of the constraints, and associated risks.
- *Workshop:* After the concept pitches were developed, we convened three half-day workshops of ten to 12 RAND experts each to critique the concepts. Concept pitch teams shared their concepts, which were then critiqued by the workshop participants, including experienced defense analysts and researchers and retired or former military officers. The workshops were facilitated by regional or military experts. The discussion centered on how the concept would perform in one of the three scenarios described in Chapter 4, representing each of the operational problems. Following the workshops, participants filled in a survey ranking the Army capabilities they thought were most useful in the Indo-Pacific across all scenarios.
- *Refinement:* The teams then refined the concepts using the feedback from the workshops and the surveys to yield final concepts for analysis and consideration for recommendations.

¹ For example, see Steve Blank, “Why the Lean Start-Up Changes Everything,” *Harvard Business Review*, May 2013.

Three Employment Concepts for the Indo-Pacific

This process yielded three distinct employment concepts for land power in the region:

- *Information multiplier*: Small Army capabilities are optimized to highlight and call to attention malign Chinese behavior during day-to-day competition as a means of disrupting and confounding peacetime shaping efforts.
- *Visible commitment force*: Small quick-reaction forces are designed specifically to counter Chinese military intimidation and paramilitary actions that invite Chinese deescalation.
- *Battlefield enabler*: Army partner liaison, battlefield support, and sustainment task forces can be used by air, space, maritime, or land component commanders during conflict to enable operations.

One element of the development process to note is that we continually referred back to the assessment criteria for employment concepts we articulated at the end of Chapter 4, which we repeat here. Each concept must

- clearly address the strategic purposes articulated at the beginning of this chapter
- have an explicit theory of success that allows policymakers and Army leaders to see the connection between the concept and its ties to strategy and (to a lesser degree) tactics.

The process of continually assessing these concepts revealed that although the concepts were each developed with an operational problem in mind, their utility is not limited to that operational problem. For instance, the information multiplier concept articulated in Chapter 7 has some utility in dealing with coercion or the threat of aggression. The capabilities that are deployed as the visible commitment force articulated in Chapter 8 can easily transition into combat support capabilities to support the concept articulated in Chapter 9. The concepts are not restricted to addressing only one operational problem.

In the following chapters, we examine each concept and how it addresses the operational problems and Chinese strategies and operational approaches. We also consider likely doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) changes should the Army implement the concept, as well as its feasibility in light of the constraints identified in Chapter 5.

The Army as an Information Multiplier

Our first concept offers a more effective way to organize Army information warfare capabilities to support U.S. strategic and Army operational goals in the Indo-Pacific. These new organizations, which we describe as an information engagement (IE) cross-functional team (CFT) and an information technical (IT) CFT provide Army, joint force, and partner military commanders more ready access to Army capabilities to see, make sense of, and manipulate the information environment in day-to-day competition, as well as during crises and conflict. These CFTs can be employed either as a stand-alone capability or in conjunction with a U.S. exercise or Security Force Assistance Brigade (SFAB) engagements in the Indo-Pacific.

This chapter begins by describing the background and context for the employment concept and why the CFT concept is necessary. We then describe the concept itself, focusing on the capabilities CFTs will have and how they will be organized to enable commanders to better access them. We then describe DOTMLPF-P changes necessary to realize this concept and offer both analysis on their feasibility and recommendations.

Background

The exponential growth in computing, data, and connectivity has enabled an environment in which the creation, interpretation, and sharing of information is increasingly influential to almost all societal activities. This includes geopolitical contestation and military conflict. U.S. rivals and competitors have designed strategies for advancing their interests in ways that remain below the threshold of triggering a U.S. military response; the leveraging of information is key to these strategies. Both nation states and lesser opponents are actively subverting U.S. influence in the Indo-Pacific region daily with the knowledge that the United States has a limited ability to react.

Although this dynamic implies that the United States is at a fundamental disadvantage in the information space in relation to adversaries, the United States and the Army do understand its importance. The Army has recognized that it needs to have increased understanding and awareness of the human, information, and physical environment to support operations

in competition or in conflict.¹ Moreover, it also recognizes a need to use information offensively, to “create and exploit positions of relative advantage necessary for defeating enemy forces.”²

U.S. efforts in the recent past to create this understanding of the environment have focused on two distinct sets of factors. The first is the sociological affinities, relationships, societal, and cultural aspects of a region and population as they pertain to the operational environment. These are often referred to as *human factors*. Examples of relevant organizations include U.S. Central Command’s Human Terrain Analysis Branch and Human Factors Analysis elements within the intelligence community, as well as the Vietnam War-era Civil Operations and Rural Development Support program. We strengthen this line of effort in the form of IE CFTs.

The second set of factors is more technical, focusing on exploiting the technological means of conveying information. This might include cyber operations, electronic warfare (EW), or the leveraging of space assets. Example organizations include EW battalions and brigades and various signal units. Importantly though, none of these organizations has sought to bring both types of capabilities together in a holistic effort to describe, analyze, and leverage the operational environment. We strengthen this line of effort in the form of IT CFTs.

This concept was developed through the distant border-clash scenario, with a China-India military standoff over a disputed border and suspected Chinese cyberattacks already occurring during the crisis. Our understanding of the MDTF and its information warfare component indicates that the current concept would not meet the demands this scenario would place on China’s target and on U.S. forces. Our concept pushes further to suggest the use of small force packages that can operate independently on the front lines of a conflict, leveraging reach-back capabilities.

Concept Overview

Adversary forces are seeking to create denied areas—contested regions where U.S. forces lack access and placement—to disrupt U.S. activities. In competition, crisis, or conflict, the Army needs the ability to sense, understand, decide, and act in denied spaces across the human, physical, and informational spaces. It needs to be able to collect and process information to build situational awareness, which, in turn, provides options for commanders and enables quicker decisionmaking. Most importantly, the Army must do so holistically by taking account of human and technical factors, represented in the IE and IT CFTs. This under-

¹ Christopher Paul, “Understanding and Pursuing Information Advantage,” *Cyber Defense Review*, Summer 2020.

² U.S. Army Combined Arms Center, “Information Symposium Slides,” briefing, Combined Arms Doctrine Directorate, February 4, 2021.

standing is improved by maintaining a presence on the front lines of a crisis or conflict while leveraging capabilities in the rear.

This concept builds on the aforementioned existing concepts and organizations but also seeks to highlight the tenets of converged targeting and cross-domain maneuver as executed through a set of core tasks:

- enable decisionmaking
- protect information
- inform domestic audiences
- influence foreign audiences
- conduct information warfare.³

To make it easier to understand how this concept is employed, the next two sections are broken down into (1) competition and (2) crisis and conflict.

Competition

Under this concept, during competition the Army will help to set the theater for future operations by supporting ongoing security cooperation activities; building, maintaining, and promoting relationships with host nation military forces; augmenting U.S. embassy personnel and staff; discovering and reporting on adversarial activities; and highlighting opportunities for future U.S. engagement. This concept identifies smaller force packages below current Army force structure that will enable better information collection, processing, and operations by being more readily deployable, more independent, and likely more amenable to the host nation. Information is central to the accomplishment of these goals. Small, forward-deployed IE CFTs can connect Army, joint, and partner forces to information operations resources, focus commanders' efforts to collect information, manage perceptions, and otherwise enable better decisionmaking for operational commanders. This supports a force that can independently (or in conjunction with U.S. partners and allies) make better sense of a local information environment, provide information to higher headquarters, and leverage reach-back organizations and capabilities to be able to engage in a local information environment that bolsters the U.S. image abroad. At the same time, an IE CFT uses those same resources to influence and disrupt the information environment for the enemy. It does this by engaging in local narratives and by providing access to technical capabilities to partner forces. The box "Information-Related Activities Conducted During Competition" lists the types of information-related activities conducted during competition.

The IE CFT will be a more accessible resource for commanders and units conducting a variety of missions and activities in theater, including Army and joint exercises, security cooperation activities, humanitarian assistance and disaster recovery, embassy support,

³ U.S. Army Cyber Center of Excellence, "Key Definitions and Logic Map," briefing, February 10, 2021.

Information-Related Activities Conducted During Competition

Enable Decisionmaking	Protect Information	Inform Domestic Audiences	Influence Foreign Audiences	Conduct Information Warfare
<ul style="list-style-type: none"> Establish, operate, and maintain secure information networks and systems Support information collection 	<ul style="list-style-type: none"> Implement information protection (operations security) Conduct cyberspace security and cyber defense 	<ul style="list-style-type: none"> Coordinate public communication Conduct commanders' communication synchronization 	<ul style="list-style-type: none"> Coordinate public communication Perform civil-military engagement and information sharing 	<ul style="list-style-type: none"> Reveal or conceal Perform military information support operations

SOURCE: U.S. Army Combined Arms Center, "Information Symposium Slides."

and partner engagements. Additionally, IE CFTs can provide accessible forward presence in support of a joint task force (JTF), special operations task force, and other operations. Because information is central to these organizations, they will require the ability to push and pull information from higher elements and reach-back organizations. This will enable robust analysis, information processing and sharing, and the employment of CONUS-based capabilities.

These CFTs will also provide information to reach-back organizations, such as the U.S. Army Cyber Command's Information Warfare Operations Center, U.S. Army Special Operations Command's Information Warfare Center, 500th Military Intelligence Brigade, and Special Operations Command Pacific and its 1st Information Operations Command. This will further provide more ready access to information operations resources to commanders who otherwise might not have access to them.

Crisis and Conflict

During crisis and conflict, the Army can connect U.S. and partner forces to the fullest range of information warfare capabilities, outlined in the box "Information-Related Activities Conducted During Crisis or Conflict." Under our proposed concept, these activities will be conducted with a minimal amount of U.S. personnel forward deployed and will maximize the use of reach-back support in alignment with partner force requirements. The Army will also begin to set the theater for a potentially more robust U.S. deployment and the conduct of kinetic operations by having a robust presence in the contact layer or the information domain.

The above activities will help increase the decision speed of partner forces through access to enhanced C2 systems and processes, ensure access to the space and cyber domains, protect friendly information by securing and obscuring information systems, impose a steep political cost to adversarial leadership through continuous and rapid transmission of adver-

Information-Related Activities Conducted During Crisis or Conflict

Enable Decisionmaking	Protect Information	Inform Domestic Audiences	Influence Foreign Audiences	Conduct Information Warfare
<ul style="list-style-type: none"> • Conduct knowledge management • Conduct electromagnetic spectrum management • Conduct electronic support • Conduct cyberspace surveillance and reconnaissance • Conduct defensive navigation warfare 	<ul style="list-style-type: none"> • Conduct electronic protection • Provide emissions control 	<ul style="list-style-type: none"> • Conduct multimedia documentation of military operations 	<ul style="list-style-type: none"> • Conduct security cooperation • Distribute narratives and counter-narratives 	<ul style="list-style-type: none"> • Reveal or conceal • Perform military information support operations • Conduct military deception • Conduct cyberspace attack • Conduct electronic attack • Conduct offensive navigation warfare

SOURCE: U.S. Army Combined Arms Center, "Information Symposium Slides."

sary activities to worldwide audiences, degrade adversarial morale through targeted messaging campaigns and through the targeted use of EW capabilities to isolate forward-deployed adversarial forces, expose aggressive actions to worldwide audiences by placing targeted messages on prominent social media and news sites, and provide limited access to free and open information by penetrating adversarial firewalls. These operations might also build regional and domestic U.S. support for more-intense U.S. engagement or involvement.

As part of an initial support package during a crisis, the CFTs would primarily provide intelligence support to U.S. and local commanders, such as access to imagery and video, analytic support to build multisource analytic products (including those that support kinetic and nonkinetic targeting), and a robust common operating picture that integrates these resources. Some of these will be undertaken by forward-deployed units, while others will be prosecuted by reach-back organizations. Forward-deployed intelligence assets will be able to monitor and provide signals intelligence, offensive cyber, and EW capabilities.

Notional Force Packages

The IE and IT CFTs envisioned under this concept are intended to be small, flexible, and unobtrusive forces that can be adapted to any range of scenarios and allied or partner needs. Table 7.1 provides some notional force packages to help illustrate what this concept might entail in practice.

TABLE 7.1

Notional Force Packages for the Army in the Information Multiplier Concept

	Force Package 1: Competition Support to a BCT	Force Package 2: Embassy Augmentation, Competition	Force Package 3: Special Operations JTF, Crisis or Conflict	Force Package 4: I Corps (Forward) or JTF, Crisis or Conflict
Size of element	IE CFT: 10 IT CFT: 10+	Personnel: >100	Personnel: >500	Personnel: ~5,000
Command relationships	Organic elements	U.S. liaisons and mentors	U.S. liaisons, mentors, and MDO-oriented personnel and capabilities	U.S. liaisons, C2, and combat support and combat service support personnel
C2 requirements	Independent IE or IT CFT element or C2 element for unit being augmented	Limited C2 augmentation, reliant on embassy support	JTF or special operations JTF, elements forward with partner-nation units, protected bandwidth and assured C2	JTF or special operations JTF, elements forward with partner-nation units, protected bandwidth and assured C2
Reporting structure	Report via support unit channels or directly to information consolidation staff section at U.S. Army Pacific Command (USARPAC)	Theater information advantage element, MDTF, JTF, I Corps or USARPAC	Through special operations JTF to theater information advantage element, MDTF or USARPAC	Theater information advantage element, MDTF, JTF, I Corps or USARPAC
Intelligence considerations	Collecting and reporting	Satellite imagery, no full-motion video, no real-time imagery	Satellite imagery, full-motion video, real-time imagery, elements of the military intelligence brigade	Satellite imagery, full-motion video, real-time imagery
Capabilities	Cyberspace security, operational security, EW protection, signal support	Cyberspace security, operational security, EW protection, signal support	Offensive and defensive cyber, space, and EW cyber battalion (-) theater-level strike effects group space control company (-), EW company (corps) (-)	Offensive and defensive cyber, space, and EW cyber battalion (-), space control company, EW company (division), intelligence, information, cyber, electronic warfare, and space battalion (I2CEWS) (-)

Table 7.1—Continued

	Force Package 1: Competition Support to a BCT	Force Package 2: Embassy Augmentation, Competition	Force Package 3: Special Operations JTF, Crisis or Conflict	Force Package 4: I Corps (Forward) or JTF, Crisis or Conflict
Narrative engagement	Initial target audience analysis, atmospheric collection	Augment embassy personnel	Targeted public affairs and psychological operations messaging, psychological operations company (-), public affairs detachment	Targeted public affairs and psychological operations messaging, psychological operations company (-), public affairs detachment
Additional considerations	—	—	Army sustainment, security, air defense artillery capabilities deployed forward to provide force protection	I2CEWS and other military intelligence elements deploy to region to begin operational preparation of the environment, Army Prepositioned Stock Afloat (APS-3) port opening elements deploy to set theater for follow-on joint forces

What Must Change?

To fully implement this concept, the Army must make the changes identified below. These changes are characterized using the DOTMLPF-P framework. They are further broken down by time horizon, with some being easier and quicker to implement than others.

Doctrine. Although doctrine that describes the various elements of the IE CFT (civil affairs, psychological operations, public affairs, and intelligence) and IT CFT (EW, signals intelligence, and space operations), no doctrine exists to merge all these elements together. Each capability has its own doctrine and proponent at both the Army and joint levels. A holistic doctrine and proponent organization is needed to fully implement these CFTs.

Organization. The capabilities that are described in the IE and IT CFTs exist but have not been combined in the ways described in this concept. This presents a range of challenges. The first is how these forces are generated. One possibility is to develop the CFTs in the same way that the MDTF was developed: by converting an existing unit. Another possibility is to augment the capabilities of an existing unit, such as the 915th Cyber Support Warfare Battalion, which has some of the elements of the IE CFT but does not possess signals intelligence, EW, space, and assured C2 capabilities. Another challenge is how C2 is exercised over these CFTs and how they interact with reach-back resources. Additional organizational changes would need to be made at the joint and service levels to ensure that information coming from the CFTs could be received, processed, and relayed to other organizations that need that infor-

mation. Organizations such as the theater information advantage element, MDTF, theater information command, or I Corps Main Tactical Command Post could provide oversight and direction to the CFTs. In any event, further experimentation needs to be done to ensure that this process is optimized for a minimal CFT forward footprint and rapid utilization by reach-back organizations.

Training. Training has also been ad hoc, as many of the capability areas that would make up the CFTs do not train together. Multiple exercises have tried to include elements like a theater information command, theater information advantage element, or others that play the role of information coordinator. What all these exercises lack are tactical units of action that can be tasked by that element. Without the ability to collect information and then pass it through processes, much of the training advantage to be gained by having an information-focused headquarters is lost.

Materiel. Minimal material changes are anticipated from this concept.

Leadership. Commanders would have to be educated on the capabilities that the IE CFT and IT CFT bring to operations. To effectively employ the suite of capabilities and to maximize effectiveness, leaders would need to understand how they operate and augment existing military capabilities.

Personnel. This concept would require few additional personnel adjustments beyond what the Army is already pursuing. Not only would the Army need more information and cyber specialists but it would also need to reconsider how those capabilities are grouped, trained, and employed. Both the IE CFT and IT CFT would be led by an O-5 cross-trained in the core capability areas of that CFT. For example, for the IE CFT, an information operations officer cross-trained in civil affairs, public affairs, psychological operations, military deception, and operations would be required. For the IT CFT, an officer with experience in cyber, signals, EW, or space capabilities could lead the unit.

Facilities. No additional facilities would be required to support this concept. The IE CFT and IT CFT would need a place to train and stage from. This could be provided from existing U.S. bases on Fort Shafter or on Joint Base Lewis-McChord.

Policy. Existing authorities already exist to empower the units of action. Policies may require changing to allow personnel with certain skill sets to enter partner countries. For example, traditional psychological operations personnel have augmented embassy staff and supported special operations.

Power Projection Elements

This concept is designed to project power in both the physical and information environments. It does this by physically deploying the IE CFT and IT CFT, as a standalone capability or in conjunction with a U.S. exercise or SFAB engagement, into the region. These elements are able to monitor, build, and engage in physical networks (via face-to-face communications) and through social media (virtual) engagements. The IE CFT is the primary conduit of this type of power because it is the element that is monitoring and engaging with host-nation

populations in the information environment. As an on-the-ground element, they are actively creating and pushing approved themes, messages, and narratives into the information environment. They are actively monitoring and engaging on social media platforms and identifying key local influencers (both in the physical and virtual domains) to help do the same. Leveraging partner and ally communicators has a twofold benefit. First, it engages audiences in their primary language, thereby increasing the effectiveness of the message. Second, seeing local communicators allows for a more nuanced and effective message.

These CFTs can better enable the Army to fully take advantage of the engagement activities it already conducts. It does this by adding a more robust monitoring and engagement capability to the information environment—specifically, by first raising awareness of information advantage activities to conventional forces and then by providing specially tailored forces to engage in this space (IE CFT and IT CFT). During competition a larger headquarters element will be stationed at a standing U.S. Army garrison (Fort Shafter, Joint Base Lewis-McChord, or other location). This larger element will lighten the footprint forward while helping relay, process, and collate information from forward units.

Through the use of the IE CFT and IT CFT, forward presence of U.S. forces can be sustained at a relatively light cost. Because these elements can support a variety of missions, they can be used to maintain presence while also providing information to rear elements. With increased situational awareness, organizations designed to engage in the information environment can have an active sensor in theater that can help identify seams and gaps that U.S. forces can then exploit. They can also help critique adversarial narratives and combat them on the ground. Organizations that would benefit from this type of active sensor include Army Cyber Command's Information Operations Warfare Center, Army Special Operations Command's Information Warfare Center, global Army special operations forces (SOF) framework, and Special Operations Command's Joint MISO WebOps Center.⁴

During crisis and conflict, the IE CFT and IT CFT can help to share intelligence, identify physical and informational targets and audiences, and provide cross-domain capabilities to strike adversarial targets.

Feasibility

During competition or crisis and conflict, both the IE CFT and IT CFT can provide support to operations. For maximum flexibility and deterrence, both the IE CFT and IT CFT can augment multiple conventional forces and SOF command structures to provide tailored information spectrum support to U.S. and partner forces. Table 7.1 describes examples of each and highlights some of the factors that commanders must take into account when thinking about information advantage activities. This is not a comprehensive list, and other constraints may arise as identified by operational necessity.

⁴ MISO stands for military information support operations.

This concept is designed to be highly feasible because it is not intended to be a one-size-fits-all solution or the complete solution to any given scenario. Keep in mind that the IE CFT and IT CFT are relatively small units of action that can begin to help map out and engage informational and technical networks, build equity with partner militaries, and, during conflict, present dilemmas to adversarial gray zone activities. To fully confront adversarial acts of aggression, additional Army and joint capabilities will need to be brought to bear.

Implications and Recommendations

The need to be able to sense, understand, enable decisionmaking, and then act is central to this concept. Because of the geographic distance and the large numbers of people living throughout the region, USARPAC needs to have better situational awareness of friendly, neutral, and adversarial populations. It also needs to understand how adversaries are leveraging narratives to create friction with U.S. allies, influence neutral populations, and embolden actors that do not share U.S. goals in the region.

These CFTs are meant to be able to sense, understand, and speed up decisionmaking for commanders. To do this, they bring capabilities to engage in the physical and information environments. Their comparative advantage is that they bring these capabilities along with a relatively a light footprint to operational commanders.

This concept makes several recommendations to help USARPAC achieve better situational awareness, gain access to better information, and provide decisionmakers with more options to engage.

In the near term, if the Army adopts this concept, the IE CFT and IT CFT need to be created. These organizations need to be requested for upcoming exercises to create a demand signal for these kinds of capabilities. These units need to be integrated into near-term staff exercises and then deployed in support of security cooperation training events so they gain valuable experience. At USARPAC, the G39 and G2 sections need to be able to receive, process, and disseminate information for decisionmakers emanating from the CFTs. Longer term, a theater information advantage element, MDTE, standing JFT or I Corps (Forward) will need to be established in theater to provide C2 of the CFTs.

The United States should continue to increase and enhance interoperability and intelligence sharing with partners across the cyber and information spaces. This may require more robust information and intelligence sharing agreements but also includes the ability to quickly declassify and share information with U.S. allies and partners. One method to accomplish this could be to have intelligence products developed with a tear line that quickly provides the intelligence to a partner without jeopardizing the source of that intelligence. This would help to build trust while also providing U.S. partners with potentially high-value information. A robust open-source intelligence analytical cell would also be required to support information collection, collation, and processing for USARPAC.

The Army should finalize and publish the Information Advantage Concept to inform upcoming exercises and experiments. It could consider borrowing content from the Joint Information Advantage Concept. A longer-term solution would be to write an employment guide for the IE and IT CFTs. This document would be short of doctrine but act as a stopgap measure to address several areas, including manning, training tasks, process guide, and a table of equipment for the IE and IT CFTs. This would help to codify and refine processes as information advantage activities are tested and employed through exercises. The China-India border standoff used here would be one scenario to start with, but the concept could also be explored via tabletop exercises for more-severe crises or contingencies such as those explored in the scenarios about Chinese coercion against the Philippines or a Chinese maritime invasion of Taiwan, used for the following two concepts.

The Army as a Visible Commitment Force

This concept, visible commitment force, focuses on the rapid deployment of U.S. Army forces to the territory of an ally or partner during a time of crisis. The concept entails a phased and scalable deployment of several potential force packages, starting with a small command element to facilitate cooperation with the ally or partner nation and pave the way for further tailored force packages. These follow-on U.S. Army forces could be tailored for ISR, offensive fires, aviation, or air and missile defense, among other capabilities, if the partner nation accedes to their deployment.¹ Ultimately, the objective is to assure the ally or partner and deter the adversary by augmenting the host-nation military through close cooperation and joint decisionmaking, buttressed by exquisite or unique U.S. capabilities to better defend the host nation. This concept is novel for the U.S. Army not because of its focus on rapid deployability but because it is based on pessimistic assumptions about access prior to crisis or conflict to explore options for tailoring and conducting important missions with an expeditionary posture.

This concept was developed from our South China Sea scenario of Chinese aggression against the Philippines' Scarborough Shoal. In that case, we focus on rapidly deploying credible U.S. land forces tailored with specific capabilities to resist coercion. This can serve as a visible signal of commitment to both the ally or partner and the adversary and may be generalizable to other parts of the region beyond the Philippines. This concept is designed to address what we call the *11th-hour posture dilemma*: that some U.S. allies and partners seek to hedge China's rise by welcoming a U.S. commitment to their defense but not being willing to actually host U.S. troops in peacetime for fear of incurring China's wrath. This creates a challenge, however, when the crisis is imminent and key partners desire additional U.S. support—namely, it will be difficult to rapidly increase U.S. posture in the region once a crisis situation is reached. So far, our assessment is that the U.S. military, including the Army, has not sufficiently addressed what is ultimately a political and diplomatic challenge but requires a military stopgap solution.

This concept is proposed as part of that solution, and we argue that it is applicable beyond just a South China Sea dispute to suit any established allied or emerging security partner that

¹ We acknowledge that such a deployment of heavy combat forces, during an ongoing crisis response operation against Chinese military and paramilitary forces, is fraught with risk. It is also highly dependent on the particular geopolitical dynamics at play during the crisis.

suddenly welcomes a rapid U.S. in-country presence during a crisis. This concept naturally leverages the Army's value proposition for INDOPACOM as a credible deterrent force (see 70 years of deterrence against North Korea) and its existing deep relationships with partner militaries (often Army dominated) to facilitate rapid expansion of cooperation between the United States and partner governments.

Background

The U.S. Army, specifically, and INDOPACOM and DoD more generally, already build plans and develop forces capable of rapid response in the Indo-Pacific region across many possible contingencies. USARPAC and its component forces exercise various types of rapid deployment options that can respond within days with company- to battalion-sized forces.² Recently expanded regional exercises, such as Defender Pacific 21, were partly designed to demonstrate the capacity for such rapid U.S. response.

Former USARPAC Commanding General Vincent Brooks wrote in 2013 that "USARPAC provides significant contingency response force capability to USPACOM [U.S. Pacific Command] with prepared and ready Mission Command nodes and combat and enabler support packages." These packages, he explained, include elements from the 25th Infantry Division, three Stryker BCTs in I Corps, a JTF headquarters in Alaska, and multiple sustainment, medical, engineer, intelligence, and other unit types. "All Pacific-assigned HQs have established emergency deployment readiness exercise programs," Brooks explained, to "develop the rapid deployment capability necessary in the 'new normal' environment. All now have the ability to deploy initial elements within 24 hours."³

This concept builds on these existing capabilities, concepts, and plans. It calls for a further elaboration of existing plans to build—and advertise—a more prominent regional rapid deployment capability, one whose role in specific contingencies is more tied to operational concepts for how the United States can add a decisive degree of military power to crises or wars. Visible commitment force proposes building rapid response for packages and, especially, concepts that are tied to more-specific theories of success for crisis and war—specifically, how ongoing peacetime U.S. activities lay the groundwork for specific force packages to offer rapid reassurance and deterrence messages in crisis, as well as how those activities lay the groundwork for specific warfighting approaches.

This concept marks a departure from previous and existing U.S. Army thinking by starting with what we assess is the most constrained link for U.S. Army rapid power projection—lift—and by focusing on developing force packages that are rapidly deployable, highly flexible, and

² For unclassified reports on such deployments, see Jason Stadel, "The 25th Infantry Division's Asia Pacific Response Force Assessment Team Strengthens Partnership," U.S. Army, March 6, 2019; Tony White, "Exercise Forager 21 Jumps into Airborne Operations," U.S. Army, July 30, 2021.

³ Vincent K. Brooks, "U.S. Army Pacific and the Pacific Rebalance," *Army Magazine*, October 2013, p. 122.

sufficiently visible to be a credible signal of U.S. commitment in a crisis. This concept would require a high level of readiness, or quick readiness, for the early forces and likely rethinking of Army concepts for sustainment of small expeditionary units in austere environments.

Concept Overview

This concept envisions the expansion, tailoring, and more-specific focusing of the rapidly deployable elements of U.S. Army forces that allow the United States to leverage providing potential access during a period of crisis. The intent is to enable the positioning of relevant capability more quickly, with the aim of enhancing the capabilities of the partner that requested U.S. assistance. It is particularly intended to counter Chinese attempts to exert de facto control over contested islands or reefs in the South China Sea, to the detriment of other states in the region, such as the Philippines or Vietnam.

The key elements of this concept are the continued development of a deployable task force headquarters at sufficient readiness to be moved via air and provide C2 of Army response forces, as well as liaison with the partner nation being supported. The initial headquarters node could then be augmented with important capabilities, such as sensors or air and missile defense, as part of a package designed for operations in potentially very austere environments. Additionally, the concept would call on strategically positioned sustainment elements that can be brought to theater via Army watercraft within an operationally relevant period. The result would be a concept with the same rapid deployment capability as existing crisis response forces but tailored specifically to support partner nations under coercive pressure from China.⁴

A crucial element of the task force would be its ability to interact with partner forces and facilitate coordination. This could include the sharing of intelligence with the partner nation to inform decisions about Chinese coercion efforts and to illuminate those behaviors to a regional or global audience, if necessary; to better understand and anticipate Chinese activities as the crisis develops; and to best employ partner military and U.S. joint fires based on targeting-quality ISR information (potentially provided by either the United States or the partner). At a minimum, provisions enabling deconfliction and reducing the chance of misunderstandings between the United States and the supported partner would be valuable additions in a crisis.

Taking a longer-term view in the region, the intent of the Army mission in the partner country is to support the partner so that the U.S. contribution is viewed as welcome and as enhancing the partner's ability to ensure its sovereignty. In doing so, this increases U.S. influence and the perceived value of the United States as an ally. A few crises resolved with timely

⁴ Existing response forces, such as the Global Response Force, are built around general-purpose light infantry units that may signal commitment but do not possess specialized capabilities that a partner nation could use to counter Chinese coercion.

and effective U.S. help could considerably increase the likelihood that U.S. troops will be asked to return when needed and that relationships are strengthened to permit deployments to happen more quickly and with more-decisive effects.

For some example force package options under this concept, see Table 8.1.

Components

This concept provides assurance and deterrence on behalf of a U.S. partner through the deployment or forward stationing of a command element, the addition of some tailored capabilities, and the subsequent flow of reinforcing units. The focus here is on the initial force (the command element and tailored capabilities) being able to provide meaningful capabil-

TABLE 8.1
Notional Force Packages for the Army in the Visible Commitment Force Concept

	Scenario 1: Maritime Invasion	Scenario 2: Maritime Coercion	Scenario 3: Distant Border Clash
Operational purposes of force package	<ul style="list-style-type: none"> In period of strategic warning, deploy to signal U.S. intention to assist; in conflict, provide supportive function for ally or partner that is at least initially bearing most of the fight itself; lay foundation for additional force flow 	<ul style="list-style-type: none"> Signal U.S. commitment to ally or partner; provide critical added capabilities to threatened nation to improve the effectiveness of its response; lay foundation for additional force flow 	<ul style="list-style-type: none"> Signal U.S. commitment to ally or partner; provide critical added capabilities to threatened nation to improve the effectiveness of its response (this scenario does not assume potential for large-scale subsequent U.S. force flow—it is a limited role)
Operational concept or theory of success behind force package	<ul style="list-style-type: none"> First forces serve two purposes: HQ/C2 and sensing/ISR + information operations/EW foundations for overall U.S. effort; second-phase forces begin to add combat power optimized to defeat invasion 	<ul style="list-style-type: none"> Initial forces lay some HQ/C2, information operations/EW and sustainment basis for possible additional U.S. efforts; provide specific added capabilities needed by partner 	<ul style="list-style-type: none"> Initial forces provide specific added capabilities needed by partner, presumably with emphasis on information roles; modest HQ to oversee efforts
Desired response times for first and second echelons	<ul style="list-style-type: none"> First echelon: 48–72 hours (900–1,000 people) Second echelon: 4–7 days (2,000–5,000 people) 	<ul style="list-style-type: none"> First echelon: 72 hours (300 people) Second echelon: 5–10 days 	<ul style="list-style-type: none"> First echelon: 72 hours (20 people) Second echelon: 5–10 days

Table 8.1—Continued

	Scenario 1: Maritime Invasion	Scenario 2: Maritime Coercion	Scenario 3: Distant Border Clash
Core operational and combat elements	<ul style="list-style-type: none"> • 2-star JTF HQ • Multidomain battlefield coordination detachment • Intelligence and EW battalions (I2CEWS, EW, cyber capabilities) • Unmanned aerial vehicle (UAV) company • Possibly air and missile defense 	<ul style="list-style-type: none"> • 25th Infantry Division assessment team or Indo-Pacific reaction force/Chairman of the Joint Chiefs of Staff immediate response force HQ • Intelligence and EW company • Ready company from immediate response force • UAV company • Follow-on: Depending on threat, possibility of HIMARS/Multiple Launch Rocket System and air and missile defense Indirect Fire Protection Capability (IFPC) 	<ul style="list-style-type: none"> • Will vary by case; needs of partners differ, but unlikely to include heavy combat elements • 25th Infantry Division assessment team or Indo-Pacific reaction force/Chairman of the Joint Chiefs of Staff immediate response force HQ • Intelligence and EW company
Logistical and sustainment elements	<ul style="list-style-type: none"> • First echelon: none • Second echelon: sustainment brigades 	<ul style="list-style-type: none"> • First echelon: none • Second echelon: scenario-specific logistics and sustainment capabilities 	<ul style="list-style-type: none"> • None; no large-scale U.S. force flow requiring large sustainment
Critical peacetime activities to build the basis for this mission	<ul style="list-style-type: none"> • ISR/domain awareness activities and joint capabilities • Rotational deployments of HQ/C2 and work on interoperability with partner • Ongoing logistics and sustainment engagement with host nation • General military-to-military engagements and professional military education opportunities 	<ul style="list-style-type: none"> • ISR/domain awareness activities and joint capabilities • Rotational deployments of HQ/C2 and work on interoperability with partner • Ongoing logistics and sustainment engagement with host nation • General military-to-military engagements and professional military education opportunities 	<ul style="list-style-type: none"> • Engagement, joint training, and exercising on specific U.S. support roles • Rotational deployments of HQ/C2 and work on interoperability with partner • ISR/domain awareness activities and joint capabilities • General military-to-military engagements and professional military education opportunities

ity before larger-scale Army units begin to arrive—and potentially before a crisis spirals into conflict.

Command Element

The command element of the crisis response force will require the ability to deploy on short notice, work closely with a potentially disparate set of possible national partners, and command an expanding Army force as it arrives in the area of operations.⁵ As a starting point, a BCT headquarters may be a sound command element: It has more capacity than other headquarters for ongoing or more-complex operations and is designed to operate a combined arms team. Although an SFAB headquarters company might have personnel with more experience in a given country, it lacks that capacity. Instead, an SFAB might contribute personnel with experience and personal relationships to help guide operations and interaction with the partner nation.

There are some obvious disadvantages from the combatant commander's perspective to using a BCT headquarters as the basis for a crisis response force command element. There would reasonably be a disruption in the brigade's training schedule and availability if it were tasked with a response force mission; further, if a response force mission were required to expand to include an entire BCT, the headquarters would eventually have to transition to directing brigade-level operations. In that case, a division-level element might prove more versatile and would also contribute a flag officer to interact with the partner military (which may be desirable for other reasons).

Tailored Force Package Elements

The subsections that follow outline some of the possible capabilities that might be incorporated into a tailored force package. This particularly includes intelligence and ISR capabilities but also fires, aviation, and sustainment elements to set conditions for expansion of the forward-postured force.

ISR

A central element of the concept is the use of an Army headquarters to benefit from partner ISR while sharing U.S. ISR and potential targeting information with the partner. This will likely demand the presence of intelligence professionals and some clear authorities relating to how sensitive information is shared with the partner. Sanitizing data from important joint platforms so that they can be shared (and shared quickly in some cases) would be essential. In the opposite direction, the partner country might provide additional ISR information that Army intelligence units could then share with the rest of the U.S. joint force. In the near

⁵ As noted, USARPAC and other U.S. regional commands have been working for a decade on the development of tailorable task force headquarters elements capable of serving as the command hub of a U.S. rapid deployment mission.

term, much of the data might be provided by joint ISR; as the Army continues to develop its programmed and anticipated multidomain capabilities, it will likely be able to provide more organic capability, including via aviation, which is described further below.

Offensive Fires

The utility of offensive surface-to-surface fires for this concept requires a series of conditions to be met, not all of which are under U.S. control. The first condition is that the partner must grant access to firing units, and eventually will need to grant permission for fires from its territory to be directed against some target of interest. For its part, the Army's firing unit and associated fire support network requires launchers with munitions that have the range, guidance, payload, and other characteristics to make them suitable for use from the partner nation.

At present the Army does not have an effective long-range anti-ship capability, and the longest-range surface-to-surface system is the Army Tactical Missile System (ATACMS), which at best has a maximum range of 300 km. In the near term, Army fires are not likely to be a meaningful player in a conflict unless or until more-suitable weapons become available. In the future, with the fielding of the Precision Strike Missile (PrSM) to replace ATACMS and of longer-ranged munitions (including potentially cruise, ballistic, and hypersonic missiles with ranges in excess of 500 km), the Army may in some cases be able to hold targets at risk from partner territory.

It is worth noting that the availability of these weapons is a double-edged sword. Although the partner may be reluctant to grant access to weapons with strategic range, it is also the case that a partner that has granted such access has sent a powerful signal of its commitment. A necessary companion element for an operational or strategic missile unit is an ISR cell to enable targeting, as the sensors necessary for targeting beyond 500 km will generally not be co-located with the firing unit.

Aviation

Army aviation units offer some potential for providing both ISR and fires for an early-arriving force, at the cost of more-substantial sustainment requirements and difficulty of deployment. Present-day short-notice capabilities might be centered on the provision of an unmanned aerial system (UAS), such as RQ-7 Shadow or MQ-1C Gray Eagle, and might contribute meaningfully if a partner lacks such capabilities.⁶

In the future, with the fielding of next-generation rotary wing aircraft in the Army, the ability of human-piloted aircraft to participate in a short-notice mission might be much improved. The Army plans to field a next-generation scout and attack helicopter, the Future Attack Reconnaissance Aircraft (FARA), and a next-generation assault aircraft, the Future Long-Range Assault Aircraft (FLRAA), that would replace the UH-60 Black Hawk. The

⁶ The Philippine Air Force and Navy operate a handful of Hermes and ScanEagle UASs; repositioning even a Gray Eagle company would considerably expand the country's available UAS capability and capacity.

FLRAA has a range requirement of between 1,725 and 2,440 nautical miles, which would potentially open up options for self-deployment.⁷ Both FARA and FLRAA are envisioned to employ a family of drones with sensing, EW, strike, and decoy packages that could augment a partner's capabilities.

Air and Missile Defense

Army air and missile defense capabilities could be valued early in a conflict not only to protect U.S. and allied forces but also to provide additional situational awareness of the airspace near a partner nation. Broadly, there are three classes of threats the Army might provide some ability to defeat:

- *Countering missile strikes.* China's large numbers of ballistic and cruise missiles make it challenging, if not impossible, to envision an effective defense within certain distances of the mainland. However, the provision of missile defenses to an ally would still moderately complicate the ability of Chinese firing units to hold partner forces and facilities at risk. For example, it could potentially force them to increase the number of weapons or to use more-expensive munitions to overcome defenses with suitable certainty.
- *Countering PLA Air Force and PLA Navy aviation.* Deployed air defense forces might be able to hold maritime patrol aircraft or large, long-endurance UASs at risk; if a conflict did occur, the presence of more-capable air defense systems would necessarily complicate mission planning for Chinese fourth-generation fighters and nonstealthy bombers (which constitute the bulk of their combat aircraft).
- *Countering UAS.* The competition between UAS and counter-UAS (C-UAS) capabilities is still in its early stages; as smaller, networked UAS capabilities proliferate (and eventually become a feature of Chinese maritime and special operations missions), the ability to employ kinetic and nonkinetic C-UAS systems in support of a partner will only become more valuable.

As a final note, in some cases key components of an air defense system can on their own provide important contributions. The larger air defense radars, such as the TPY-2 of the THAAD system or the new Lower Tier Air and Missile Defense Sensor, could enhance the partner's situational awareness of the airspace near its borders. Looking further to the future, an expanded ability to fire longer-range air defense missiles cued by joint sensors could also substantially improve the capability of air defenses.

Sustainment

All the capabilities that the Army might deploy will have important impacts on sustainment requirements. Early delivery of sustainment resources sends an important signal that further

⁷ Joseph Trevithick, "Here's What's in the Army's Requirements for a Future High-Speed Assault Helicopter," *The Warzone*, April 5, 2019.

U.S. forces are anticipated as its forces continue to generate and deploy. This could include transport of resources via sealift, chartered aircraft, or contracts with local sources for bulk items, such as water and fuel.

Other Capabilities

It is possible to envision several other capabilities: some that might be deployed to provide a particular niche capability and others that are more demanding to deploy and less likely to be required in bulk in the early stages of an operation. Some important niche capabilities might include chemical, biological, radiological, and nuclear (CBRN) response teams or EW capabilities. These are generally underrepresented in BCTs and would require personnel from other brigade formations to enable their effective use. The provision of medical capabilities, perhaps in the context of a humanitarian assistance and disaster recovery mission, could also be critical in building a relationship with a partner.

Finally, some of the Army's capabilities might not be required in large numbers early in a conflict but could be available for force planners as an option. These include maneuver forces and engineers; both are potentially very important for a larger-scale operation but are personnel intensive and may be redundant to the land force capabilities of a partner.

Force Package Design

As these options suggest, there is significant overlap in the required unit types for the various response portfolios. Therefore, a single, dedicated set of units could be established as the core of a Pacific response force and provide many of the needed requirements for these missions. Such a force would be held at a high level of deployment readiness, in locations with good proximity to airfields for lift. It would likely include

- a headquarters element with the knowledge of the host country, needed C2 capabilities to link into the partner to ensure reliable connectivity to joint forces and command centers, and command direction for the U.S. deployment package
- an information dominance element with information operations, EW, and cyber components
- some UAV elements capable of operating both ISR and strike assets
- an ISR and domain awareness component, plugging into networks built during peacetime
- a small, initial sustainment lead element, with strong contacts built up through regular exercises and rotational deployments to the host country, capable of plugging into local logistical networks and overseeing the execution of a force flow and sustainment plan
- a streamlined short- to medium-range strike package—some combination of HIMARS and other units designed to meet strict lift constraints but offering a meaningful anti-ship capability able to be delivered within 72 hours
- a deployable air and missile defense element.

On the other hand, several force types are notably absent from these portfolios. One is the range of heavy combat maneuver elements that make up the core of Army force structure, notably armored brigade combat teams (ABCTs) and Stryker BCTs. Components of Army infantry brigade combat teams (IBCTs) can be part of these initial deployments, but follow-on forces are unlikely to consist of large numbers of BCT-sized infantry formations. Army vertical lift also does not appear on these lists: It is too heavy to bring to the theater in significant numbers and does not have clear roles in many of these contingencies.

What Must Change?

It is likely, although not entirely apparent, that current USARPAC plans include a variety of options for tailored responses in the western Pacific or South China Sea. Some of the likely recommendations of this concept may thus reinforce existing efforts by USARPAC.

Structure

It is not clear that the broad structure of programmed INDOPACOM-aligned Army forces will need to dramatically change. Should the demand increase for SFAB commitments then this should be prioritized: Security force assistance missions are probably an essential catalyst for the realization of a crisis response capability, as familiarity with local conditions and personal relationships with key host nation personnel would likely reduce risk in the initial and early phases of a crisis deployment.

Posture

The Army should consider forward positioning bulk sustainment items for surface transport (in locations such as Guam, Palau, or, potentially, Japan) to shorten the time between the arrival of air-delivered forces and surface-delivered sustainment and reinforcement. It is not always the case in surface transport that stationing nearer to the point of debarkation results in a faster deployment; other considerations, such as the location of the transporting asset and assigned personnel, can change this. An advantage of surface transport assets in theory is that they can be launched prior to the official start of a mission, should there be sufficient warning, but this is not something that should be counted on.

Organization

An assigned headquarters with the response force mission should be at sufficient readiness to permit short-notice deployment, which should at minimum be rehearsed with moves to training areas repeatedly throughout the year. Designated subunits within assigned formations (for example, a ready-force HIMARS platoon in a field artillery brigade) should similarly rehearse and deploy to live fire training or combat training center rotations with some

frequency to demonstrate, as well as gain, tacit knowledge about employing this capability. Close interaction with elements of the SFAB that has (hopefully) deployed to support a given host nation will also be desirable.

Power Projection Elements

The primary emphasis of this concept is on improving the Army's ability to contribute an initial element within days of notice and before more-traditional large-scale force elements would begin to arrive. This initial element would be specifically organized, trained, and eventually reequipped to maximize relevant capability, *starting with available lift*. All other modernization elements of the concept flow from this point, and it has several important implications.

Under this concept, we suggest that the design of these units should fundamentally begin with the minimal available lift projected under a range of potential scenarios, based on a holistic and realistic assessment of what will be available to the Army organically and from the joint force. This would be in contrast to starting with the ideal functional components that would go into a deployable unit. For example, if the estimate is that in a future short-notice South China Sea scenario, U.S. Transportation Command can make available to the Army five C-5s within 72 hours, then, under this concept, the Army should start its unit design based on the available space of five C-5s. This would require innovation for force design and drive difficult trade-offs for capability and sustainment. Ultimately, we argue that this concept would deliver a more realistic, and thus credible, deployable U.S. Army force to support allies and partners in opposing future Chinese aggression.

Each additional soldier deployed to an area adds to the burden of the deploying force. Water and food requirements go up with each soldier, as well as transportation assets, such as vehicles, if required. Each major equipment item deployed requires fuel, replacement parts, and eventually potentially repair kits and personnel. Combat units will also require a stockpile of ammunition (which in many if not all cases will require additional considerations for transport and security). These considerations imply some potential solutions:

- The Army should consider cross-training soldiers such that more can be done with fewer personnel early in a fight. Additionally, to the extent possible, remote participation via secure communications links could offset the deployed footprint and contribute planning capacity.
- There may be some value in sending a smaller number of multirole platforms to an area. This does increase their potential fragility, but only over an initial period.
- Future additional opportunities may be presented by the employment of AI—for example, offloading tasks to an AI with one or two personnel on site instead of a team of analysts (with remote backup, if needed).
- There should be a high priority for robust, secure communications over strategic distances for the initial force. Its utility is limited without them.

Opportunities for Innovation

Developing these force packages, and the broader concept of a Pacific response force, will invite opportunities for innovation in Army force design and employment. One example is the role of reach-back forces in CONUS. In various capability areas, most notably information and cyber but also potentially others (including virtual engagement and elements of logistics operations dealing with host-nation institutions), CONUS-based elements could contribute to U.S. rapid responses in new ways.

Another area for potential innovation involves the role of reserve component capabilities. The reserve component could be more deeply involved in rapid response packages, in terms of both reach-back CONUS-based elements but also reserve component units that are held in a higher-than-typical rate of readiness that perform functions not requiring any retraining time and operating in close proximity to lift assets.

Feasibility

This section considers the concept's effectiveness given an overarching set of constraints that U.S. Army operations in the INDOPACOM area of responsibility will have to address.

Weaponizing and Employment of Fires

This concept does not prioritize the early deployment of Army fires units, instead focusing on integrating with the partner military and helping employ partner and U.S. joint fires and ISR. If appropriate for circumstances, the initial entry force could be tailored with a firing unit of some kind—probably a HIMARS or midrange-capability missile battery—but a more robust fires capability (for example, that provided by an MDTF) will require a considerably longer and more-intense deployment.

Posture and Partner Dynamics

The concept assumes that, in the near term, at least relatively few U.S. Army forces will be continuously deployed, particularly not those who would be most desirable for crisis or conflict-related missions. It is still clearly desirable that rotations of SFAB or other forces to partners in the western Pacific take place, both for reasons of relationship building and for learning about the specific challenges of operating in a given partner country. Close involvement of SFAB personnel with the response force is one approach that can reduce friction in deployments.

Sustainment

The small size of the short-notice response force mission is specifically intended to reduce the demand for assets devoted to sustaining units once deployed. As discussed above, a greater

emphasis on modernization and force design directed toward increasing capability relative to deployed footprint is central to this. The Army will also have to rely on expeditionary contracting, especially for the initial elements—a requirement whose foundation can be laid in peacetime, with U.S. engagement plans designed to build local contracting relationships and situational awareness to permit rapid expansion in crisis.

Joint Force Interactions

This concept considers joint requirements in two senses. First, it accepts that, early in a crisis, a great deal of joint logistics flowing to an air- and maritime-centric theater will necessarily be directed first toward the Air Force and Navy, and this (along with Army requirements to support theater logistics for the joint force) will consume some portion of available lift and sustainment capacity. Second, the concept is specifically designed to enhance both partner and joint capability in a crisis by providing a shared command element that can support joint operations. This can also benefit crisis response by serving as a liaison function, coordinating with the partner beyond a shared command element in such areas as ISR sharing for partner targeting.

Lift and Force Flow

Lift and force flow are similar to sustainment, above: The focus on a much smaller initial entry force is necessarily a reaction to the likely availability of airlift and fast sealift assets. A central pillar of this concept is the need to base the initial force on (presumably very limited) available lift. If the available lift is, for example, fewer than ten C-17 sorties per day, then the amount of combat power that can be generated on short notice will be very limited; the conceptual approach here is to provide additional capability early that better integrates partner and joint capabilities. Subsequent force flow can then be guided in favor of the developing course of action.

C2

Early arriving forces in this concept are most likely to consist of a command node that provides a connection with the partner land force headquarters, coordinates joint capabilities on the partner's behalf, and acts to control arriving Army forces as the situation develops. As discussed above, on the basis of the stated limitations of the SFAB headquarters, this might instead be built around a BCT or even MDTF headquarters if appropriately reinforced. To maximize the effects of the small initial response force, there will be a requirement for a robust communication link with its higher headquarters or, at minimum, joint forces in the region.

Signature Management and Vulnerability Reduction

In the initial stages of deployment, the response force elements will be reliant on partner defensive capabilities; these can potentially be augmented with U.S. Army or joint capabilities if required. There will necessarily be some risk taken with the forces that respond first via airlift; however, steps taken to safely receive and deploy follow-on forces would certainly benefit from expertise and experience in a range of concealment, camouflage, deception, and decoy use.

Implications and Questions for Further Consideration

Under this concept, the first major step would be to create a dedicated Pacific response force, perhaps under I Corps, that would either maintain high readiness or be able to mobilize quickly. Ideally, this force would be stationed in the region for quicker deployment (and a small but tangible signal of U.S. commitment to the region and deterrence against China). In practice, this suggests a I Corps CONUS-based unit that has a forward-deployed element, regularly rotated to maintain high readiness. The command element would be well suited as this forward deployed element, and the other tailored force package options (ISR, etc.) could be stationed by Joint Base Lewis-McChord. This would hopefully streamline the existing U.S. Army CONUS- and USARPAC-based rapid deployment capabilities intended for INDOPACOM.

In addition to the above constraints, there are several potential challenges that would need to be addressed as part of a crisis deployment to a partner nation, especially if the deployment is conducted on short notice. First, it is possible and even likely that there will be unexpected legal or political constraints for U.S. forces arriving in country. They may be expected to accept liaison officers from the partner, have special escorts when moving around the country, or agree to specific limitations in their capabilities to conform to the conditions of a presence agreement. It is entirely likely that they will have to operate under constrained rules of engagement.

Second, and more broadly, the augmentation of partner capability on short notice and under crisis conditions is potentially fraught with political and military risk that should be considered in advance of a deployment. Clear political and strategic guidance may be necessary to avoid instilling overconfidence in a partner and raising the likelihood of conflict. The aims of the United States and of the host nation might not (and likely will not) be in perfect alignment; it is essential that the actions of the deployed force be informed by a sound understanding of the political-military situation. It therefore follows that close cooperation with the relevant interagency and DoD country expertise are necessary preconditions for deployment.

Third, further research needs to be done on the implications for crisis stability of deploying U.S. Army forces into the theater during or in the lead-up to a crisis. Previous RAND research has found that U.S. ground forces can have a deterrent effect in steady state and that

surging forces forward at times of crisis can prevent further escalation.⁸ However, the effects of surge deployments in crisis situations are contingent on the local context, actors, messaging, and timing, all of which should be considered carefully in the INDOPACOM context. This concept is premised on the idea that there is an acceptable level of U.S. force deployment that signals commitment, with an acceptable amount of corollary escalation, while remaining below the threshold for an adversary's unrestrained response. If the Army moves toward implementation of this concept, it will be important to better understand how ground forces—in varying amounts, in varying locations, and at varying speeds of deployment—might affect adversary perceptions of and decisionmaking during a future crisis.

⁸ Bryan Frederick, Stephen Watts, Matthew Lane, Abby Doll, Ashley L. Rhoades, and Meagan L. Smith, *Understanding the Deterrent Impact of U.S. Overseas Forces*, RAND Corporation, RR-2533-A, 2020.

The Army as a Battlefield Enabler

The third and final concept developed in this research—the Army as a battlefield enabler—addresses the central problem with projecting substantial combat power over the demanding geography and time constraints in the Indo-Pacific in the case of major combat operations, such as a maritime invasion of Taiwan. This is the most demanding challenge that land forces must confront. Unlike in first concept—the Army as an information multiplier—the potential for hostilities has become a reality, and acting as an information multiplier is no longer sufficient. Similarly, the small, responsive Pacific response force presented in the second concept—the Army as a visible commitment force—cannot by itself confront the challenge of major combat operations. This concept examines the utility of Army forces to enable forces that *can* confront that challenge in a timely and decisive manner: U.S. air and maritime forces and local ally and partner forces. It further examines the demand for Army sustainment forces in all cases.

This concept proposes three task forces for mission-oriented task-based units to achieve three core Army supporting roles for the joint and partner forces: battlefield support, partner force liaison, and sustainment. The battlefield support task force is made up of small, distributed, and task-organized cells that are created as needed to meet specific mission demands to enable joint (or partner) force operations, such as a cell to support U.S. Air Force distributed operations; an air and missile defense cell to support U.S. Navy movement inside the first island chain; and a robust forward C4ISR cell to provide supplementary targeting for long-distance strikes. The partner force liaison task force is made up of small cells that deploy forward to facilitate coordination with the partner force, specifically to leverage U.S. exquisite or unique capabilities. The sustainment task force serves as the leading C2 node to facilitate theater sustainment for the joint force, including by leveraging local sources.

This concept is motivated by identifying the Army's value proposition for the joint force in an INDOPACOM contingency in which the kinetic effects will be largely air and maritime delivered. We assess that the Army's unique service contribution is its role in enabling land-based operations (including for the U.S. Air Force) and coordinating with host nations, drawing on its ability to operate small, distributed units within the adversary threat ring (first island chain), regional relationships, and C2 excellence. This concept builds on several emerging threads of Army thinking. First, although the Army and broader joint force are working to better understand the potential for political access for U.S. military presence across INDOPACOM in the long term, this concept eschews peacetime standing units in

favor of flexible task-organized units drawn from existing force structure at the start of a conflict (e.g., MDTF) and potentially operating outside the Army command structure to enable joint operations. This would require a rethinking of Army doctrine, force structure, and C2 structures. We argue that such a significant change is necessary to position the Army and joint force for success in a future major power conflict in INDOPACOM. Second and relatedly, although the Army is rethinking the scale of its force deployment packages, INDOPACOM requires even more-efficient (smaller) force structures than Europe or the Middle East. The concept centers on smaller units that are more deployable and more survivable. This has the additional benefit of making the concept more likely to be amenable to host nations for gaining access. Third, while the Army has long acknowledged its role in supporting the operations of other services, this concept explicitly focuses in part on enabling the operations of other services.¹

This concept was developed from our scenario about a Chinese invasion of Taiwan but is potentially applicable to other scenarios in which the United States is conducting major combat operations for another country's defense in INDOPACOM. Although Taiwan is certainly the main focus of this type of planning, it is possible that over the long term similar considerations could be raised for India and Vietnam, as emerging security partners. They will also present similar challenges of long-distance power projection in the face of China's A2/AD force with limited or no in-country presence. However, this concept is not intended for the Korean peninsula, because it already has a dedicated (and Army-centric) U.S. military presence in U.S. Forces Korea with formalized joint operations and interoperability.

Background

The Army will have a very limited ability to effectively project significant expeditionary forces through the Chinese A2/AD in the time required to counter a Chinese offensive such as a maritime invasion. Army support to the joint force's efforts needs to be either present before the outbreak of hostilities or small and agile enough for rapid deployment using limited lift. These forces must be able to provide effective support to the joint force in an operating environment characterized by significant survivability risks stemming from Chinese A2/AD systems, attempts to degrade or shatter U.S. battlefield networks, and limited U.S. ability to provide sustainment stocks across all classes of supply and services.

These conditions suggest that the Army would be most useful to the campaign as a supporting effort offering niche capabilities to the joint, ally, and partner forces.² The addition of Army capabilities such as sustainment, air defense, and base security can bolster the effectiveness of U.S. air and maritime forces. The Army's extensive experience in joint C2 can also

¹ A 2020 Army War College report has made similar arguments: Freier, Scahus, and Braun, *An Army Transformed*.

² For more on this, see Freier, Scahus, and Braun, *An Army Transformed*.

serve as a gateway for regional partners and allies to coordinate with U.S. forces and access their capabilities.

These battlefield enablers have utility in other operational contexts as well. If liaison forces are rotated consistently into the region with partnered forces, they can contribute to broader and more effective information advantage. If placed in a higher level of readiness as part of the Pacific response force, they can usefully contribute to the ability of a regional nation to resist Chinese coercion or contribute to a more direct U.S. air or maritime response. In each case, the adroit use of these enablers can blunt the key precondition for any large-scale Chinese military aggression described in Chapters 3 and 4: shutting the United States out of the region geopolitically by eroding its network of alliances and partnerships.

As the analysis in Chapter 3 indicates, the traditional elements of Army combat power are ill-suited for confronting the threat of large-scale Chinese aggression in the Indo-Pacific. The roles for maneuver forces—such as armor, cavalry, and infantry units—are unclear unless U.S. leaders are willing to contemplate a brutal fight to retake territory seized by China or a campaign on mainland China. Fires capabilities have greater utility, but the access and range issues detailed in Appendixes A and B present significant, perhaps insurmountable, challenges. Moreover, projecting these forces into theater will be daunting no matter what their utility; as mentioned in Chapter 3, Chinese military and paramilitary capabilities were designed specifically to blunt U.S. power projection.

However, the concept developed in this research suggests that the Army can still play a significant role in confronting Chinese aggression. The central idea for this concept is that Army forces provide specific capabilities that can be reasonably forward deployed or projected into the region and maximize the effectiveness of the forces that can intervene quickly and effectively during major combat operations. The Army does this by providing battlefield support to the joint force or liaison and supporting forces to partner nations in the region. The concept also addresses the Army's role in theater sustainment.

These roles can be crucial ones for joint, ally, and partner forces. However, the Army has little experience with being the supporting force and subordinating its fires and C4ISR to a joint governance structure at more than a marginal level. For this concept to be successful, the Army will have to do so at all echelons. This requires a different focus on developing interoperable systems (a technical problem), processes (a training problem), and culture (a leader development problem). Each of these is, in and of itself, a source of risk. Nevertheless, the contributions that the Army can make to the joint force and to partner and ally nations are substantial and worth pursuing.

Concept Overview

This concept centers on mission-oriented task forces ready to be integrated into any component command to provide Army-unique capabilities in support of joint objectives. We offer three critical task forces that may enable this concept: a battlefield support task force, partner

force liaison task force, and a sustainment task force. For some notional force packages, see Table 9.1.

Battlefield Support Task Force

Under this concept, the battlefield support task force would be responsible for coordinating the creation and tasking of multidomain support cells to the supported component commanders. These multidomain support cells would be task organized to meet specific mission demands and are envisioned as more numerous, smaller, and having a much lighter footprint

TABLE 9.1

Notional Force Packages for the Army as a Battlefield Enabler

	Battlefield Support Task Force	Partner Force Liaison Task Force	Sustainment Task Force
Operational purposes of force package	Provide mission-specific support to joint force via task-based units that are small and distributed	Provide partner force with U.S. exquisite or unique capabilities via task-based units that operate forward with partner and can coordinate with U.S. joint force	Provide C2 leadership to joint force sustainment, including leveraging local host-nation options
Operational concept or theory of success behind force package	The Army has unique capabilities to enable joint force distributed operations, long-range strike, etc.	The Army has unique capabilities to coordinate with partner force and ensure that partner is leveraging joint force capabilities	The Army has unique capabilities to run C2 for joint sustainment
Core operational and combat elements (examples)	Agile combat employment enabler cell: <ul style="list-style-type: none"> Fuel distribution detachment Infantry platoon for security ~83 personnel Air and missile defense cell IFPC or Avenger platoon or company ~30–60 personnel Robust forward C4ISR cell Gray Eagle platoon ~37 personnel 	Liaison cells: <ul style="list-style-type: none"> Small detachment Drawn from I2CEWS Embed with SOF, SFAB already in-country Signals/communications capability 4–5 personnel 	Early entry command post (EECP): <ul style="list-style-type: none"> Drawn from U.S. Expeditionary Sustainment Command Regionally aligned to INDOPACOM

than the current concept for the Army's MDTF.³ Three examples of varying sizes demonstrate the utility of these multidomain support cells to the joint force:⁴

- An *agile combat employment enabler cell* is a task-organized forward refueling unit to support limited Air Force agile combat employment operations or mobile UAS launch and recovery teams, built around a fuel distribution detachment with an infantry platoon for security.⁵ This cell would require an estimated 83 personnel and 323 short tons of equipment, transportable in six C-17 sorties.
- A *cruise missile and UAS defense cell* consists of detachments of Army air and missile defense units that can be quickly emplaced at expeditionary air bases to defend them against cruise missiles and UAS threats. This cell would be built around a reinforced platoon or company (-) of IFPC Increment 2-I units consisting of an estimated 30–60 personnel and approximately 300 short tons of equipment transported by five or six C-17 sorties.
- A *robust forward C4ISR and EW cell* is a cell built around the TLS–Echelons Above Brigade (EAB) system, which can supplement or provide contingency C4ISR support to air- or maritime-based strike missions, as well as local defensive EW capabilities. Although the lift footprint of this capability is still unknown (and there are no proxy MTOEs that exist), discussions with stakeholders indicate that it is being designed for rapid deployability and modularity.

Multidomain support cells are meant to be temporary organizations that are drawn from Army forces and employed by air and maritime component commanders for specific missions. They trade robust general utility and self-sustainment capability for ease of deployability and small footprint. The three multidomain support cells described above are only examples; other task-organized units are possible, depending on the needs of the component commanders for a given contingency.

Partner Force Liaison Task Force

The partner force liaison task force would coordinate the creation and deployment of partner force liaison cells to integrate with partner forces. Close integration with ally and partner

³ Andrew Feickert, "The Army's Multi-Domain Task Force (MDTF)," Congressional Research Service, April 13, 2021.

⁴ The physical footprint and lift calculations are derived from analysis of fiscal year 2020 modification tables of organization and equipment (MTOEs) and tables of distribution and allowances available on the Army's Force Management System (FMSWeb).

⁵ For a detailed examination of this concept, see Patrick Mills, James A. Leftwich, John G. Drew, Daniel P. Felten, Josh Girardini, John P. Godges, Michael J. Lostumbo, Anu Narayanan, Kristin Van Abel, Jonathan William Welburn, and Anna Jean Wirth, *Building Agile Combat Support Competencies to Enable Evolving Adaptive Basing Concepts*, RAND Corporation, RR-4200-AF, 2020.

forces is a necessity in any major combat operation. Ally and partner forces will likely have a closer understanding of local terrain and populations. Conversely, the United States offers valuable capabilities, such as intelligence, C2, cyber, and precision strike. Partner force liaison cells are needed to unlock those capabilities for each partner. Since many allies and partners in the region have ground force-centric militaries, Army liaisons make the best organizational fits. This would build on the Army's comparative advantage of existing bilateral military relationships and peacetime relationship building in INDOPACOM.

These liaison cells will consist of four- or five-person detachments with minimal equipment from I2CEWS and signal units that would embed with SOF and SFABs already working with allies and partners. SFABs already provide multifunctional advisory teams specializing in maneuver, field artillery, engineer, and logistics, so this concept merely extends existing concepts by tailoring the Army liaison unit to the needs of the ally or partner force during major combat operations.

Sustainment Task Force

This concept centers on the Army's long-understood role of providing and managing theater sustainment. In INDOPACOM, the Army provides the majority of the foundational logistics capability, which means that the rest of the joint force is providing the minority.⁶ The Army has long possessed robust C2 for this warfighting function, particularly for logistics and medical. Thus, the Army is well situated to enable joint and partner forces. Because the Army is limited by force flow constraints and critical enablers that reside in the Army Reserve and National Guard that flow into theater later than optimal, this concept focuses on providing C2 structures that can integrate with extant sustainment capabilities in theater.

The key challenge to sustainment in major combat operations in the region is the need for adaptability and flexibility under expeditionary conditions. Previous operations have relied on strategies of stockpiling equipment and commodities; this will not be sufficient to address the challenges of the region because the pace and demand level for sustainment will vary significantly. It will also necessitate an increased ability to pursue contracts and agreements with partners to facilitate movement of goods and services in the region. This points to the central need for sustainment C2.

The U.S. Expeditionary Sustainment Command is a starting point for the rapid response force, particularly its EECP. It is a flexible, scalable, and tailorable organization that can provide mission command for follow-on forces. However, the EECP as it is currently structured and aligned is suboptimized to be the rapid response force of choice. The 593rd Expeditionary Sustainment Command is assigned to USARPAC but supports both USARPAC and U.S. Army Forces Command, which can cause it to lose sight of the regional operational focus it should maintain. Additionally, as it is aligned with I Corps, the focus of the Expeditionary Sustainment Command, and the EECP by extension, is focused "down and in" on parochial

⁶ Interview with U.S. Army official, April 6, 2021.

Army requirements, rather than “up and out” to meet broader joint and multinational force requirements. To optimize the EECP to provide a critical sustainment C2 capability, it needs to be aligned to properly maintain an operational, regional focus and to be able to meet the demands of the joint force it will be supporting.

Army support to other services and common user logistics will need to focus on non-traditional sustainment support to meet the challenge of the distributed, nonlinear character of future battles. Rather than management by commodity, the sustainment task force should focus on facilitating key logistics partnerships with multinational forces, enhancing joint interoperability, establishing or refining host-nation support agreements, and gaining or maintaining access to critical infrastructure nodes. The EECP will need to be augmented by critical enablers to round out the sustainment task force. This includes expanded contracting support, integration of watercraft, and joint and multinational liaison plug-and-play capability. Depending on the mission, the enabler needs may change, which is why the EECP should be flexible enough in organization to absorb these enabling capabilities.

What Must Change?

For the Army to successfully implement this concept, it will require changes to current Army organization, particularly C2. To begin, the Army will need to balance what units and capabilities will need to be retained at a theater or strategic level versus what will be retained by the Army. Already, the Army is looking at this with such capabilities as the MDTF or watercraft, but these needs will require consideration across the organization. In a shift from an era of being the supported command to more-likely future scenarios in which the Army will be in a supporting role, the tension between service-retained versus theater-retained assets will be elevated.

Although the Army has an inherent and unique advantage in its existing capability for standing C2 organizations, the expertise is land-domain focused and lacks an appropriate theater-level view. There is a need for increased understanding (and ability for interoperability) of the other domains. For example, there is a need for a theater joint force logistics (TJFLOG) capability for many potential scenarios in the INDOPACOM theater. The need to have awareness of logistics nodes, modes, and capabilities both within and outside an expansive maritime-dominated area of operations will most likely require the capabilities of a theater sustainment command (TSC). Within doctrine, the Army’s TSCs have this ability to be tasked as the TJFLOG; however, the TSC has yet to support air- and maritime-centric operations.⁷

To facilitate the ability to employ distributed, task-organized, small units that enable joint force operations, the Army will need to restructure to provide more flexibility in the gen-

⁷ Army Techniques Publication, 4-94, *Theater Sustainment Command*, Headquarters, Department of the Army, June 28, 2013.

eration of combat power. Force structure should focus on generating cells while reducing overhead C2. For example, in the case of MDTFs, which are in the process of structuring to develop multidomain cells, manpower could be weighted to generating cells rather than replicating overall MDTF headquarters structure. A singular MDTF could then generate and absorb additional multidomain cells (from not just the active force but the guard and reserve as well). Experimentation is required to determine the span of control (e.g., how many teams) a singular headquarters can manage. Training will also need to adapt to facilitate habitual relationships that will be the foundation of the ability for these cells to generate and then reabsorb into structure. This concept will also take a different approach to soldiering and retention. The Army should leverage lessons learned from the SOF community to retain and cultivate talent. Additional tracking of skill identifiers will allow better identification of requisite skills that can enable cell generation.

Similarly, the implications for operating distributed, nonstandard formations are profound for C2. The Army must adapt C2 relationships to reflect the demands of successfully denying the belligerent while accounting for the realities of operating distributed in nonstandard formations. This will require abandoning traditional, echelon-based C2 in favor of a flexible C2 structure that allows Army forces to communicate seamlessly with the joint force from smaller, nonstandard units. Span of control will be of concern, and experimentation is needed to determine what the allowable span of control will be for C2 elements. The ability to plug and play forces into an organization will require adaptability and flexibility within the organization.

Finally, the Army's ongoing investment in linking multidomain sensors and shooters into a cohesive kill chain needs to be expanded to ensure compatibility with networks and capabilities being developed by the Air Force and Navy. This is especially important for this concept, as we envision the Army working closely to support joint or ally and partner forces.

Feasibility

As with the other proposed operational concepts, we assessed the feasibility of this concept in each of the categories of constraint developed for this study.

Partner-Nation Access

This operating concept seeks to invest in partner nations where access is limited. The identification of capabilities and abilities to expand interoperability may mitigate some access issues. Although it is important to acknowledge that access is likely to be limited in the short term, this concept is focused on INDOPACOM countries that may rely on U.S. large-scale operations for their defense, and thus we assume that in the long run such access will improve to the necessary level. Moreover, we prioritize SFABs and other similar low-profile units as the peacetime leading edge of this concept to build relationships and experience over time, so access should be a manageable issue.

Lift and Force Flow

These concepts adhered strictly to the limit of eight C-17 sorties per day. This meant that some high-value Army capabilities (such as air and missile defense) could be deployed only as detachments, complicating C2 issues. This issue could be mitigated if units could be built up over time (adding to the signature management burden), if more C-17 sorties became available, or if alternative intratheater transport in the form of watercraft were available. This reinforces U.S. Army efforts to expand theater lift capacity.

Sustainment

This concept is designed to self-sustain by employing small units, partly under the assumption that they can leverage partner military or local civilian sources for sustainment. However, resupply of critical classes of supply, particularly munitions for fires capabilities, will be an issue. This concept also prioritizes the Army's shift in roles from a more traditional supported command to a supporting command. This concept elevates the Army's joint force contribution because of the critical need to provide sustainment to the joint force.

Joint Force Interaction

The concept is structured to enable joint force operations across the theater by emphasizing Army-unique contributions. It invests in niche battlefield enabler capabilities and having them already forward, interacting with partner nations to provide deterrent effects and enable assurance. It also emphasizes the ability of small, tailored Army units to integrate into other joint force capabilities, perhaps even leveraging the joint force to provide combined C2.

This concept is most stressed when it comes to C2. The use of task-organized, distributed, small units will significantly stress the capabilities of Army C2 systems, especially as they are currently structured. The span of control for units is increased. This will require abandoning traditional, echelon-based C2 in favor of a flexible C2 structure that allows Army forces to communicate seamlessly with the joint force from smaller (in most cases company and battalion), nonstandard units. Moreover, these small units will often be supporting air and maritime components, which may need to exert operational control of Army forces, presenting a new dimension of the C2 challenge.

The Army will have a very limited ability to project significant expeditionary forces to counter a Chinese offensive, such as a maritime invasion. Army support to the joint force's efforts in these scenarios needs to be either present or small and agile enough for rapid deployment using limited lift. The forces deployed must be able to provide effective support to the joint force in an operating environment characterized by significant attempts to degrade Army and joint C4ISR, by operating inside of the missile range of a large quantity of capable (in terms of lethality, precision, and mass) enemy fires (ground, sea, or air launched), as well as by limited ability to provide sustainment stocks across all classes of supply and services. Although the Army may not be able to prevent action, it may be able to defeat the enemy in a

longer campaign. Army capabilities must be prepared to support a longer campaign that will expand across all domains.

Implications

This concept would represent a shift in the Army's focus regarding its role in major combat operations and its relationship with the joint force, transitioning from supported service to foundational, enabling service. We assert that such a shift is necessary both to successfully achieve a joint force victory in the envisioned scenarios and to realistically optimize the Army's contribution to the joint force.

If the Army is to adopt this concept, several early steps would include the following:

- Further consider how, when, and from where these task forces and related cells are to be drawn (the concept eschews creating new peacetime standing units but nevertheless requires some amount of peacetime structure to actually operationalize this in crisis or contingency).
- Make near- and long-term efforts to develop the intended interoperability with partners across the range of C2, intelligence, and sustainment, among other constraints.
- Experiment to develop the appropriate C2 structures (and related doctrine) to realize the envisioned task-organization, distributed, and numerous small-unit operations.
- Continue expansion of theater lift capacity, to support not just the Army but entire joint force.
- Exercise these new task forces to refine the concept.

Finally, we emphasize that this concept is not risk-free. We describe a myriad of disaggregated Army task forces operating in support of air and maritime components or partner forces. We purposefully avoided developing a cohesive or overarching structure around the different task forces and cells because our analysis leads us to believe that the Army's substantial capacity to support the joint force is best executed by having the Army fill specific gaps in the supported forces' capabilities. This means that Army forces may be operating within the first island chain, the second island chain, or even in support areas, depending on where the joint force's needs are. This intentional disaggregation is a source of risk that must be mitigated by addressing the feasibility and change considerations described in this chapter to fully take advantage of the Army's capabilities.

Prerequisites for Successful Employment Concept Implementation

During this research, we observed that all three concepts presented in this report are predicated on four key prerequisites for success. They were mentioned extensively in conversations with U.S. Army experts, during our workshops, and internally to the team. Each of the three concepts outlined in the previous chapters depends on the successful pursuit of these prerequisites for success:

- interoperability
- C2
- sustainment
- ISR.

In this chapter, we characterize each prerequisite, summarize what the Army has done to address it, and describe what remains to be done. Our analysis suggests that no matter how the Army develops MDO concepts in the future, these issues are likely to figure into them.

Interoperability

Interoperability is sometimes offered as a relatively simple, cost-free, and unambiguously beneficial goal. The reality is more complex. As one RAND report concluded,

[T]he benefits of interoperability relative to its costs and risks are often not well understood. Not knowing the value of interoperability limits the funding and senior leader interest required to build it. It is not clear whether the benefits of increased interoperability outweigh its costs, primarily in the form of increased strategic or operational dependence on partner forces, expenses related to making training and exercises multinational, requirements for compatible equipment, and political friction when disagreements emerge in peacetime or conflict. . . . Taken together, these challenges to interoperability reflect the fact that policymakers do not have a precise enough understanding of why more and better

interoperability is needed. In many ways, “interoperability” is a buzzword often asserted as the solution to an unexplained problem.¹

Nonetheless, our analysis, and specifically the requirements of the three primary scenarios examined for this report, emphasize the significant, growing, and ultimately decisive importance of interoperability as a prerequisite for achieving Army goals in the Indo-Pacific—and specifically for achieving peacetime and wartime objectives in those scenarios. It is a critical supporting process for the contest short of war, as well as effective prosecution of any conflict. This is true for at least six reasons.² First, any Army response to an urgent crisis or conflict likely will involve coming to the aid of an ally or partner.

Second, in the initial stages of a conflict with China, given the constraints facing U.S. power projection, the partner or ally is likely going to bear the brunt of the fighting, and U.S. Army roles will be mostly supportive. Interoperability will be a critical variable governing the effectiveness of these support efforts.

Third, a high degree of interoperability is specifically critical to achieve each of the three main Army roles recommended in this analysis. It is essential for the Army to serve as the regional information denominator; without integrating allies and partners into that network, for both surveillance and communication, U.S. efforts will be hamstrung. It is critical for rapid response for the reasons outlined above: U.S. forces will need to join up with local host-nation forces in a conflict. And interoperability is critical for the Army to play its role as an enabling force, because, again, it will typically have to do so while operating within the local context of host nations.

Fourth, the Army will continue to play a critical role in U.S. peacetime competition efforts in the region. The quality and success of these engagements, ranging from exercises to train-and-advise missions, will be determined in part by how well visiting or locally stationed U.S. forces can interoperate with their partners.

Fifth, interoperability also contributes to broader U.S. diplomatic goals in the region. Part of the challenge in assembling a wide-ranging coalition to deter Chinese adventurism will be to cultivate more of a multilateral sensibility in U.S. policy. Efforts to enhance interoperability can both signal such a mindset and build habits within U.S. forces that promote it.

¹ Christopher G. Pernin, Angela O’Mahony, Gene Germanovich, and Matthew Lane, *Chasing Multinational Interoperability: Benefits, Objectives, and Strategies*, RAND Corporation, RR-3068-A, 2020, p. 4; emphasis in the original.

² Pernin et al., *Chasing Multinational Interoperability*, pp. 9–20; Christopher G. Pernin, Jakub P. Hlavka, Matthew E. Boyer, John Gordon IV, Michael Lerario, Jan Osburg, Michael Shurkin, and Daniel C. Gibson, *Targeted Interoperability: A New Imperative for Multinational Operations*, RAND Corporation, RR-2075-A, 2019, Chapter 3. For a discussion of other values of networking with land forces, see Angela O’Mahony, Thomas S. Szayna, Christopher G. Pernin, Laurinda L. Rohn, Derek Eaton, Elizabeth Bodine-Baron, Joshua Mendelsohn, Osonde A. Osoba, Sherry Oehler, Katharina Ley Best, and Leila Bighash, *The Global Land-power Network: Recommendations for Strengthening Army Engagement*, RAND Corporation, RR-1813-A, 2017, pp. 45–65.

Sixth and finally, partner actions will sometimes be more effective than U.S. action, particularly in competition and some crises. In many contingencies, constraints on U.S. lift and response times surveyed for this study make clear that the ally or partner will unavoidably bear the lion's share of the burden of fighting for the first weeks or even months. The U.S. support effort will necessarily be to plug into partner activities that are underway, rather than take over the fight; such a model demands a high degree of interoperability for success.

Continuing Challenges to Interoperability

To assess possible barriers to achieving these goals, we first reviewed previous RAND reports that have sought to assess the Army's degree of interoperability against objective metrics, as well as the challenges with the broad goal of interoperability in ground and air forces. We also reviewed current Army security cooperation data to judge the role of interoperability-focused activities in that portfolio. This research, as well as our country-specific assessments of U.S. partner relations, point to several current challenges.³ The primary barriers identified in that literature are

- a lack of clear definition of the purposes of many interoperability efforts, which leads to unclear goals and purposes; goals of such efforts should be partner-specific, and one general set does not apply to all
- absence of clear commitment at the political or strategic level to interoperability as a fundamental principle of U.S. operations
- particular challenges in C2, ISR, and battle management, areas in which national systems are likely to be especially immune to integration
- disagreements on the objectives of interoperability between the United States and the partner nation
- differing perspectives on the right military means to achieve an objective, which translate into lack of agreement on where to focus interoperability efforts
- constraints due to partner-nation caveats, absorptive capacity, or political considerations
- direct costs of time, personnel, and unique equipment related to interoperability, costs that are often not accounted for in annual budgets.

Some of these have roots in political or diplomatic misalignment. U.S. military access and influence are vulnerable to political leadership changes that influence support for or

³ Pernin et al., *Chasing Multinational Interoperability*; Myron Hura, Gary McLeod, Eric Larson, James Schneider, Daniel Gonzales, Dan Norton, Jody Jacobs, Kevin O'Connell, William Little, Richard Mesic, and Lewis Jamison, *Interoperability: A Continuing Challenge in Coalition Air Operations*, RAND Corporation, MR-1235-AF, 2000.

against U.S. engagements.⁴ Shifting power dynamics in the region may also sway U.S. partners toward other strategic competitors, as might an onerous U.S. bureaucratic process that slows the flow of assistance at an unacceptable rate.⁵ Human rights violations can stop the flow of U.S. military assistance altogether.

Other barriers have to do with the limits on the capacity of U.S. allies or partners. If their militaries are small, they will have limited resources or absorption capacity to accept the level of U.S. military assistance or force presence the Army wants to provide. Partners may demonstrate lower levels of motivation if they lack an existential threat or if corruption is prevalent throughout their armed forces.⁶

Efforts to deepen interoperability also face a variety of implementation challenges that emerge in the U.S. defense bureaucracy. To name a few, some critics contend that the Army's overarching vision for how it integrates into a regional fight may be a tough sell to other services that have long dominated the U.S. footprint.⁷ The scalability of SFAB units to meet operational requirements in a full-spectrum conflict is described in doctrine but has yet to be tested in reality. National Guard State Partnership Programs that enjoy persistent engagement with regional partners face constant budget challenges. The tyranny of distance is a logistical challenge that cannot be easily ignored, even for engagement activities, particularly given the manpower and resource-intensive nature of some training exercises that can heavily tax the Army enterprise.

Any drive to enhance interoperability will also face potential problems with authorities. Authorities to mandate interoperability of systems can be difficult to clarify in the U.S. defense bureaucracy.⁸ Without clear institutional processes to overcome service and DoD reluctance to prioritize interoperable systems and concepts, it is not clear how much progress can be made.

Other challenges to interoperability emerge from U.S. operational planning practices and likely regional modernization trends. U.S. plans are often opaque to other countries, despite a stated U.S. desire to deepen engagement with emerging partners and established allies.

⁴ Ongoing uncertainty of the VFA in the Philippines is a good example of the uncertainties that lie ahead for U.S. forces engaged in the country. See Alan Robles, "US-Philippine VFA Military Pact 'in Limbo' Until Duterte Leaves Office," *This Week in Asia*, June 23, 2021.

⁵ For example, both China and Russia provide significant no- or low-cost loans for defense equipment. See "Bangladesh Won't Fall into Chinese Debt Trap, Says Foreign Minister Momen," *Financial Express*, February 6, 2022; Matthew Bodner, "Influence or Profit? Russia's Defense Industry Is at a Crossroads," *Defense News*, July 22, 2019.

⁶ We gleaned this information for various DoD country security cooperation plans pertaining to the region.

⁷ Valerie Insinna, "Air Force General Says of Army's Long-Range Precision Fires Goal: 'It's Stupid,'" *Defense News*, April 2, 2021.

⁸ Carolyn Wong and Daniel Gonzales, *Authority to Issue Interoperability Policy*, RAND Corporation, RR-357-NAVY, 2014. This report describes authorities for mandating interoperability within the U.S. joint force, but the same basic issues apply to multinational efforts.

This means that countries face the conundrum of agreeing to plans they do not fully understand. Second, as the U.S. Army and broader joint force pursue modernization of the already-advanced U.S. military, it is quite likely the practical hardware and software gap between the Army and its envisioned partners and allies will grow. This means that even if a partner or ally desires closer interoperability, tangible progress may be even more difficult than the above list suggests. The Army, and the broader joint force, would likely benefit from encouraging and supporting ally and partner modernization in tandem with the U.S. military, so interoperability remains possible in practice, not just in theory.

Steps to Enhance Interoperability

The research highlights a daunting array of barriers in the way of more-effective integration with allies and partners. Our review of this literature suggests a need for the Army to consider, in the short term, a combination of strategy and conceptual initiatives with limited, targeted efforts to enhance interoperability in especially crucial areas. It will take years to move toward a more comprehensive degree of progress. The initial question is not merely how to improve interoperability; it is *what specific capability areas* would most benefit from it.

One overarching step, which stems from the problem of lack of focus mentioned above, is to establish very clear and specific purposes for U.S. interoperability efforts within the context of specific bilateral and multilateral defense relationships. This step has already been taken to some degree in places such as theater security cooperation plans. But the information is not gathered into theater-wide plans that lay out goals, priorities, and investments in a coordinated way. Enhancing the focus of U.S. interoperability efforts is the first step to enhancing this prerequisite.

The first necessary step is a combination of high-level commitment to the goal of improved interoperability with a regional strategy for it. This would identify areas of focus for short-term efforts. Our research did not allow a definitive conclusion about this, but several areas are especially closely aligned to the three major Army concepts offered in the study: sensing, ISR, and related technologies, including unmanned reconnaissance systems; C2 networks, including multiple redundant pathways; logistical and sustainment architectures that support rapid reinforcement and regional sustainment; and selected precision strike systems, especially in antiship missions. Improved interoperability in these areas would be critical. Such a strategy would also lay out a series of actions over the next five years designed to enhance interoperability in priority areas and to begin making progress in others.

In building a regional strategy for interoperability, the United States can employ a second major tool—existing processes, activities, and investments in security cooperation—to promote these goals. Both as a natural result of its activities and through their intentional focus, security cooperation activities can help to develop interoperability, both bilaterally and multilaterally. The Army conducts security cooperation to build relationships in the region that enable critical access to geography, resources, and capabilities it would not have otherwise. To gain a sense of the variety of security cooperation priorities in the region, we examined

regional planning documents from 2019 to 2020 that outline the types of significant security cooperation initiatives that are currently a focus.⁹ We also examined a snapshot of 2018 data on current Army security cooperation activities, summarized in Figure 10.1. Examples of such engagements that year include the following: The Rim of the Pacific combat training exercise had U.S. and Japanese forces conduct a coordinated antiship missile launch at the Pacific Missile Range Facility in Hawaii;¹⁰ South Korea–U.S. Army Forces tested interoperability during training exercises Foal Eagle and Key Resolve;¹¹ and U.S. Army and New Zealand Army units tested C4ISR interoperability and operational planning capability during a rotation at the Joint Readiness Training Center.¹² The data, depicted in Figure 10.1, suggest that a significant proportion of these security engagements with partners and allies do have interoperability as a major goal or outcome—but that these are mostly with a handful of highly capable key allies and partners in the region.

In any case, most such engagements can have some interoperability-related benefit. For example, engagements that involve integrating the use of U.S. equipment also ensures that U.S. forces are familiar with partner systems and platforms. These engagements can serve to increase the chances that partner security forces might plug in to joint or combined combat operations to provide niche capabilities or serve as critical logistical nodes when needed. A coherent theater interoperability plan can provide a critical supporting context for achieving results from such engagements: Tying all of these activities into such a plan can boost the value of each and is an essential aspect of a more coordinated and effective process to enhance interoperability.

However, some of these benefits tend to emerge as an unplanned side effect of security cooperation activities. It is not clear that the security cooperation portfolio is focused on this goal across the board, especially with partners that may be less capable than top-tier allies. Many of these activities have important but more general goals of engagement and training yet are neither optimized nor supported with wider U.S. policies, concepts, or procurement approaches, designed to measurably enhance interoperability. In some cases, the focus is on helping partners build interoperability *among* their own security services (i.e., jointness) rather than between the partner and the United States.

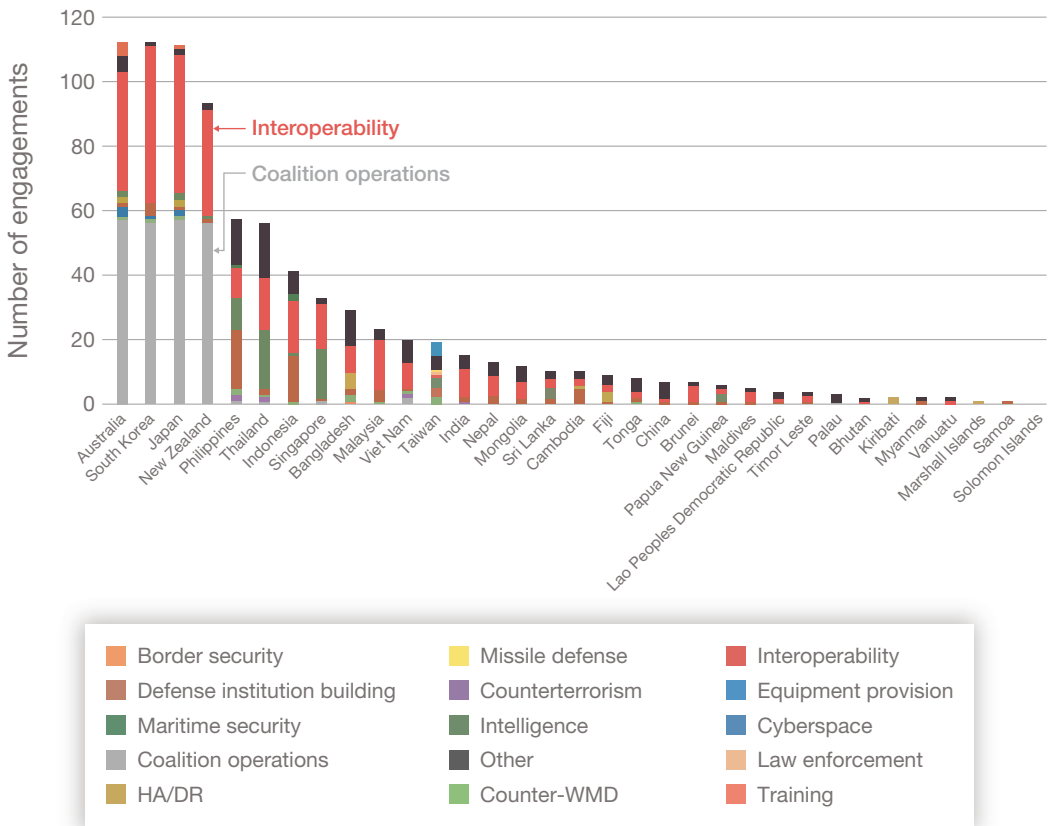
Third, as part of the strategy and using information for ongoing security cooperation engagements, the Army and joint force need a much better sense of where interoperability initiatives stand with various partners and allies. As of now, for example, there does not

⁹ Significant security cooperation initiatives are theater-level planning documents that outline combatant command security cooperation priorities and associated lines of effort to achieve them. For more detail, see Defense Security Cooperation University, “Whole of Government Security Cooperation Planning,” in *Security Cooperation Management*, 41st ed., May 2021.

¹⁰ Rachael Jeffcoat, “JGSDF Members Launch SSM During RIMPAC 2018 SINKEX,” U.S. Army photo, DVIDS, July 12, 2018.

¹¹ Christopher Hobgood, “North Branch Country Plans,” briefing, U.S. Army Pacific, June 21, 2017.

¹² New Zealand Defence Force, “NZDF and US Troops Train in Land Combat,” November 22, 2018.

FIGURE 10.1**Army-Led Security Cooperation in the Indo-Pacific Region (2018)**

SOURCE: Data pulled from the Global-Theater Security Cooperation Management Information System by the Office of the Secretary of Defense in 2018.

NOTE: AoR = area of responsibility; HA/DR = humanitarian assistance and disaster recovery; WMD = weapons of mass destruction.

appear to be a single resource offering clear information on the priority interoperability projects and their status with each partner. The Army and other services need better visibility on the status of U.S. goals.

Fourth, to support the general strategy, more resources are needed for activities, personnel time, necessary equipment, and other costs related to interoperability initiatives. The regional deterrence initiatives now in place for Europe and the Indo-Pacific are a logical home for such funding, but the most recent INDOPACOM deterrence fund appears to be devoted to many system and warfighting costs that do not leave room for such critical regional investments.

Fifth and finally, the Army and the joint force will need to give some attention to the personnel issues around interoperability and, in fact, the broader question of a force that emphasizes close ally and partner cooperation. One consistent message from RAND research

and recent dialogues with embassy defense attaché and security cooperation organization teams is that the right people are critical to long-term partner engagement—personnel with the right qualities and skills. This issue bears on assignment policies and career patterns and highlights the potential need for a somewhat larger cadre of specialists akin to foreign affairs officers who work with one or a small number of partners for their whole careers, have deep language skills and cultural knowledge, spend years in place to build relationships, and have good career advancement potential.

These conclusions highlight the very real challenges facing any renewed effort to improve levels of interoperability with allies and partners. But we have included this prerequisite as a prerequisite because it is just that—an indispensable foundation for the Army roles in the Indo-Pacific reflected in our three proposed concepts. Without tight coordination with regional partners, U.S. peacetime efforts will be significantly undermined, and U.S. wartime objectives will be placed at risk. The two most important near-term initiatives for this prerequisite, things that appear feasible despite the constraints on interoperability, are the development of a coherent regional strategy and agendas for progress on a handful of areas most connected to the three concepts.

C2

A refreshed conception of C2 is a prerequisite for the successful implementation of all three concepts presented in this report. In particular, three aspects of the concepts motivate increased attention to C2.

First, C2 conditions will differ during competition and conflict, but a unified approach is needed. Each concept envisions the Army employing small (less than brigade-sized) task-organized forces across the spectrum of competition and conflict where they will be supporting a range of joint, interagency, and partner organizations. In the first concept, the Army as an information multiplier, IE and technical CFTs will ideally provide information support to non-DoD entities during day-to-day competition. Response forces in the second concept, the Army as a visible commitment force, will most certainly require the fast and efficient integration of these chains of command into joint or partner headquarters to support the curtailment of coercive activities. In the third concept, the Army as a battlefield enabler, dispersed Army task forces and liaison elements will potentially support air and maritime component commands in the accomplishment of their goals. In each case, the operational context of C2 will differ.

This range of operational contexts will demand greater flexibility on the part of Army forces than has been expected in the past. Army commanders must integrate with C2 philosophies ranging from a U.S. country team in Malaysia, to a foreign military reacting to maritime coercion by China, to an Air Force general leading an air component command spread across cluster bases in need of sustainment support. This challenge is further exacerbated because the Army forces in all three concepts presented here are likely to be commanded by

relatively junior officers (e.g., below the rank of major) with the least amount of joint, inter-agency, or partner force experience. This is a learning curve that is much too steep to climb on the job; preparation is required.

Second, forward-deployed Army forces may be commanding or controlling other larger assets. The hierarchical relationships that make up the elements of command may be disrupted by the varied nature of the threat. Authority, responsibility, decisionmaking, and leadership may flow up from lower echelons to higher ones as frequently as the more conventional flow in the opposite direction.¹³ Two motivating factors may drive this possibility. First, the military services are confronting the Chinese A2/AD challenge by proposing operational concepts that physically disperse and disaggregate forces.¹⁴ This dispersal erodes hierarchical relationships but encourages a greater ability to see and sense across the wide Indo-Pacific battlefield. This presents a second factor: Disaggregated units operating at the tactical edge may spot and need to exploit opportunities that require tasking more-capable (and presumably larger) units at higher levels of hierarchy. The element of command must be flexible enough to enable this possibility.

The vision for this reversed arrangement is exemplified in Michael Shurkin's commentary on command relationships, in which he relates the concepts of French Army General Guy Hubin to MDO, noting,

Implied here is the idea of abandoning traditional correlations between a commander's rank and the degree of authority and responsibility. "One must break the existing relationship," he [Hubin] writes, "between the importance of the level of responsibility and the volume of the subordinates." Hubin argues that such a radical transformation is necessary to derive from the new technologies their full benefit. Training and Doctrine Command, in comparison, comes close to this idea by arguing for granting to "the lowest appropriate echelon" authority to access support from across the range of "domains," such as intelligence from national surveillance assets, and certainly fires from joint capabilities to which normally only higher echelons might have ready access.¹⁵

This might be most applicable to response forces proposed in the second concept, the Army as a visible commitment force. Such a force is meant to be a vanguard to larger, more capable forces to deter coercive action and encourage deescalation. To enable that, the response forces must be militarily capable of wielding those larger and more capable forces. The same reversed relationship may be possible in the Army as a battlefield enabler (concept 3), which envisions small vanguard Army forces directing MDO.

¹³ Army Doctrine Publication 6-0, *Mission Command: Command and Control of Army Forces*, Headquarters, Department of the Army, July 2019, p. x.

¹⁴ See, for instance, U.S. Department of the Navy, *Littoral Operations in a Contested Environment*, 2017; Jennifer Hlad and Amy McCollough, "ACE-ing the Test," *Air Force Magazine*, May 1, 2020.

¹⁵ Michael Shurkin, "Kill the Homothetic Army: Gen. Guy Hubin's Vision of the Future Battlefield," *War on the Rocks*, February 4, 2021.

The more dynamic environment described here will require the hypothetical higher headquarters to possess a degree of agility in command. J. P. Clark and coauthors observed that, given fast-moving events, commanders and headquarters must “quickly transition from centralized to decentralized operations and back.”¹⁶

Third, the Army will need to operate in degraded environments where means of control are less certain. The operating conditions that we envision across all three concepts may be marked by a reduced ability for higher headquarters to convey direction, feedback, information, or other communication to Army forces, as presented in these concepts. Rather, they may be forced to practice elements of command (authority, responsibility, decisionmaking, and leadership) without the benefit of being connected to the means of control. This may be the case because the speed of operations demands it, as may be the case in the first and second concepts. It may also be that Chinese system destruction efforts degrade U.S. and partner networks and systems, as may be the case in the second and third concepts. Alternatively, the degree to which communications are degraded may be less complete and result in lateral or peer units or elements of the organizational hierarchy being able to communicate between themselves but not with higher headquarters.

In any case, each Army unit must prepare to take action (by itself or in concert with forces still in communication) and operate when no guidance or direction from higher headquarters can be received due to degraded networks of communication. This may be especially difficult to do in cases when mission command principles, such as commander’s intent, may not be sufficient to contend with fast-moving situations—for example, a response to coercive actions in the second concept, the Army as a visible commitment force.

Current Standing in C2

The Army’s focus on C2 to date has centered on elements of control: direction, feedback, information, and communication.¹⁷ It has invested in three key functional elements of a battle network:

- *Sensing*: Continued investments are being made to retrofit more sensors (e.g., synthetic aperture radars) and unmanned platforms, such as the MQ-1C Gray Eagle, as well as improved signals collection capability through the TLS.¹⁸

¹⁶ J. P. Clark, Joe Broome, Derrick Franck, Jr., and Michael Loftus, *Command in Joint All-Domain Operations: Some Considerations*, U.S. Army War College, 2020, p. vi.

¹⁷ Army Doctrine Publication 6-0, *Mission Command*, p. x.

¹⁸ Connie Lee, “Army’s Gray Eagle Prepping for Multi-Domain Operations,” *National Defense*, March 6, 2020.

- *Communication*: Experiments in Project Convergence are demonstrating the ability to link formerly disparate elements of battle networks together, such as bypassing targeting data between headquarters using unmanned aerial systems.¹⁹
- *Processing*: Project Convergence is also experimenting with the use of cloud-based networks, conditional autonomy, and AI to improve decisionmaking speed across echelons. In addition, parallel efforts in other services (e.g., the Navy’s Project Overmatch and the Air Force’s Automated Battle Management System) may yield advances and innovation in information processing.

Less attention has been paid, though, to the elements of command: the provision of authority, responsibility, decisionmaking, and leadership.²⁰ The technology challenges attendant to MDO, such as linking sensors to shooters and processing information via AI, appear to have dominated the conversation in the defense community. As a result, there has been much less discussion about how these technologies will enable the practice of command. The assumption appears to be that linking all sensors to all shooters will simply enable a commander to have more courses of action to choose from.

This is not likely to be the case. Army scholars at the Army War College have highlighted this issue. Interestingly, they observed:

There is a general lack of knowledge across the joint force about the tactical and technical considerations that have shaped the command cultures of the services and functional communities; this causes practitioners to believe that their own group’s approaches are more universally applicable than is often the case and to ascribe the different practices of others to parochialism.²¹

Ideas like this are being informally discussed in Army communities. RAND research by Miranda Priebe and coauthors identified four potential alternative organizational structures to better enable MDO, but those alternatives focus on the role of the combatant commanders; less attention is paid to tactical C2.²² A team at the Army War College has developed a multi-domain synchronization matrix that is based on existing methods of developing air tasking orders, but that only applies to kinetic and nonkinetic fires; other operations, such as those

¹⁹ For more on Project Convergence, see Andrew Feickert, “The Army’s Project Convergence,” Congressional Research Service, October 8, 2020.

²⁰ Todd Harrison’s taxonomy calls this the “decision layer” of a battle network. See Todd Harrison, *Battle Networks and the Future Force*, Center for Strategic and International Studies, August 2021, Figure 1.

²¹ Clark et al., *Command in Joint All-Domain Operations*, p. iii.

²² Miranda Priebe, Douglas C. Ligor, Bruce McClintock, Michael Spirtas, Karen Schwindt, Caitlin Lee, Ashley L. Rhoades, Derek Eaton, Quentin E. Hodgson, and Bryan Rooney, *Multiple Dilemmas: Challenges and Options for All-Domain Command and Control*, RAND Corporation, RR-A381-1, 2020, pp. 83–97.

described in the concepts presented in this report, are not considered.²³ The question of how command can be exercised in MDO across a wide spectrum of conflict remains not only unanswered but also largely unexplored.

Continuing Challenges to C2

There are two main continuing challenges to C2 as it pertains to the concepts presented in this report. First, the question of how command is practiced in a fluid environment enabled and bedeviled by powerful information technologies must be asked and answered. As mentioned previously, this question not only is unanswered but has largely been unasked. The scope and magnitude of the command problem still needs to be defined, and a better understanding of command philosophies across military services and other government and partner organizations must be gained.²⁴ Military leaders should continue to pursue technology advances to improve sensing, communication, and processing but also pay more explicit attention to how those technologies will be used and for what strategic and operational purposes. These considerations must then flow back to the development of the technology itself. Finally, thought must be given to the inevitability of network degradation and spoofing; how do commanders exercise command when their control mechanisms are unavailable, degraded, or untrustworthy?²⁵

Second, the technologies being developed must themselves be improved. Although research and development efforts such as Project Convergence and acquisition programs such as the TLS and MQ-1C upgrades are encouraging, they are small-scale or unrealized efforts. The technical capacity to exercise C2 in disaggregated forms across threat environments, domains, and conflict spectrums is still uncertain and not available at scale.

Steps to Enhance C2

In addition to the ongoing efforts to develop control technologies (e.g., sensing, communications networks, and processing nodes), the Army must pay more attention to refreshing its conception of command. Clearly, experimentation in this topic is the first step to enhancing C2. To guide that experimentation, the Army should consider the following:

²³ Mark Balboni, John Bonin, Robert Mundell, Doug Orsi, Craig Bondra, Antwan Dunmyer, Lafran “Fran” Marks, and Daniel Miller, *Mission Command of Multi-Domain Operations*, U.S. Army War College Press and Strategic Studies Institute, September 2020, pp. 45–57.

²⁴ The impact of this is seen in Carl Builder, *The Masks of War: American Military Styles in Strategy and Analysis*, Johns Hopkins University Press, 1989; S. Rebecca Zimmerman, Kimberly Jackson, Natasha Lander, Colin Roberts, Dan Madden, and Rebeca Orrie, *Movement and Maneuver: Culture and the Competition for Influence Among the U.S. Military Services*, RAND Corporation, RR-2270-OSD, 2019; Kimberly Jackson, Andrew Scobell, Stephen Webber, and Logan Ma, *Command and Control in U.S. Naval Competition with China*, RAND Corporation, RR-A127-1, 2020.

²⁵ See Chris Dougherty, *More Than Half the Battle: Information and Command in a New American Way of War*, Center for a New American Security, May 20, 2021.

- *Expand experimentation to real-life operations.* New conceptions of command will likely spring forth from policy research and synthetic experiments, such as wargaming, command post exercises, and tactical exercises without troops. However, validation must occur in real life. The Army should consider advocating for the establishment of a standing INDOPACOM theater JTF and the establishment of all-service C2 teams to provide venues for command experimentation. It will also benefit from ongoing operational venues, such as exercises and partner engagements, that will root solutions in the geopolitical context.²⁶
- *Double down on mission command.* Ideas espoused by the existing command philosophy of mission command will remain relevant here. Pushing decisionmaking down and forward to the most engaged part of the organization will suppress excessive reliance on assured networks.²⁷ Experimentation should be rooted in this existing philosophy because it is not only familiar but likely to be the most effective approach.
- *Consider what information is needed to enable decisionmaking.* The breadth of tactical situations encompassed by the scenarios and concepts presented in this research highlight the different kinds and flows of information that might be needed to enable effective decisionmaking across all levels of a tactical organization. The first two concepts, the Army as an information multiplier and the Army as a visible commitment force, demand substantial information to make decisions—this is perhaps less the case for the third concept, the Army as a battlefield enabler. However, these initial observations demand more-focused study to determine what information is needed to make decisions and how to acculturate leaders across the Army to discipline themselves in requesting and providing information.

Sustainment

Although the sustainment capabilities the Army expects to provide to the joint force in any contingency in the Indo-Pacific are substantial, the needs of the concepts presented in this research are different and more specific.

The concepts presented here are mainly focused on arresting Chinese activities in the gray zone during day-to-day competition. A large volume of Army forces is not necessary; rather, the concepts all feature rapid, decisive, and unambiguous projection of specific Army capabilities. Only in the third concept, which is designed to support combat operations, do we foresee any sizable force with substantial sustainment needs coming into play. Even in that case, those forces are not expected to be the kinds of Army forces (e.g., armor, artillery) that

²⁶ Leland Cowie, Todd Graff, Craig Cude, and Brad Dewees, “To Build Joint Command and Control, First Break Joint Command and Control,” *War on the Rocks*, July 2, 2021.

²⁷ Robert O. Work, Chris Dougherty, and Paul Scharre, “Transcript from Emerging Concepts in Joint Command and Control,” Center for New American Security, May 20, 2020.

require substantial sustainment footprints. In fact, we expect the bulk of Army sustainment activities to focus on supporting joint and potentially partner forces. The concepts presented in this research all reflect a need for high tempo and scalability.

This demands clear prioritization of certain Army sustainment principles over others.²⁸ *Rapidity* is needed to enable swift projection and support of Army capabilities in the first two concepts (the Army as an information multiplier and the Army as a visible commitment force) to quickly arrest Chinese coercion. *Simplicity* of planning and execution of a sustainment concept is necessary, as the forces being projected in all three concepts will be tailored, task organized, and commanded by relatively junior leaders with less bandwidth to support more-complex sustainment concepts of operation. Lastly, *improvisation* will be needed; each of these concepts is designed to be used in rapidly changing, dynamic environments. To retain the initiative in operations, creative solutions that are imperfect will be valued.

These concepts will emphasize some elements of sustainment over others. The relatively light and small footprint of forces deployed during competition for relatively short periods will need more logistics support (especially supply, transportation, distribution, and contract support) over personnel services, financial management, and health service support. At the same time, however, the Army must continue to prepare to support a sizable joint and partner force for more-intensive contingencies, such as a maritime invasion.²⁹

Current Standing in Sustainment

Conceptually, the Army's sustainment innovation efforts have focused on enabling MDO. A review of current literature, stakeholder interviews, and observation of an MDO sustainment workshop sponsored by USARPAC in 2018 reveals two lines of effort, largely focused on the logistics element of sustainment. The first is to lighten the logistics demand through efforts such as caching supplies in likely operational areas, doubling the ability of BCTs to sustain operations independently, and greater task organization (such as the case for the MDTF test-bed unit).

Second, the Army is pursuing a wide range of material solutions to increase logistics capabilities in the Indo-Pacific. Some of these efforts involve the recapitalization or modernization of existing capabilities; the best example of this is the increased attention to sealift and watercraft.³⁰ However, while this is a good early effort, the Army will have to better understand both its own requirements and those of the rest of the joint force, since it is unclear whether the current level will be sufficient to sustain the entire joint force—a hefty undertaking. Other efforts focus on developing and acquiring new technologies, including the following:

²⁸ Army Doctrine Publication 6-0, *Mission Command*, pp. 1-2–1-4.

²⁹ Freier, Scabus, and Braun, *An Army Transformed*, pp. 61–68.

³⁰ Bruce Held and Brad Martin, “An American Force Structure for the 21st Century,” *War on the Rocks*, July 8, 2021.

- *Maintenance*: additive manufacturing to create parts at the point of need, attributable systems to reduce overall maintenance burden
- *Transportation*: lighter ground vehicles and autonomous vehicles to reduce personnel demand and endurance constraints
- *Supply*: additive manufacturing, water from air systems, and portable nuclear power generation
- *Distribution*: autonomous vehicles, including the distribution of petroleum, oil, and lubricants (POL).

Continuing Challenges to Sustainment

Although these modernization and conceptual sustainment innovations are considerable, the sustainment needs for the concepts presented in this research demand a slightly different focus. Each concept lightens the footprint of the forces involved considerably, raising new questions and issues to consider.

The first is that the Army must think more carefully about its risk tolerance for sustaining small, highly expeditionary forces. The forces involved in each concept are small, no more than battalion sized at their peak. Additionally, the first and second concepts take place during competition and crisis, as opposed to conflict with high-intensity combat operations. This creates conditions in which it may become attractive to minimize sustainment support (which itself imposes a burden on the total force) by reducing logistics demand; relying on alternative logistics sources, such as contingency contracting; or a combination of both.³¹ The advantages of this approach are evident, but the risks are not well understood. As the Army considers the sustainment prerequisites for these concepts and other task-organized efforts, it must take care to systematically consider the risks associated with a leaner, more expeditionary concept of sustainment.

The Army must also continue to invest in sustainment-related relationships with partner nations in the Indo-Pacific region. A leaner concept of sustainment is riskier but will enable a faster, more decisive response. One obvious way to mitigate that risk is to rely on local resources. This relates to a core Army potential advantage and theme of this report, interoperability—but less about the traditional focus of joint operations and more about the basics of leveraging local support for U.S. operations. Contingency contracting is best executed when contracting teams understand local conditions and have developed preexisting relationships. Engagements with partner nations during day-to-day competition should include some degree of focus on cultivating these relationships so they may be available during crisis or conflict.

³¹ For an example of a military organization taking on deliberate sustainment risk to enable expeditionary operations, see Michael Shurkin, *France's War in Mali: Lessons for an Expeditionary Army*, RAND Corporation, RR-770-A, 2014.

Finally, the Army's theater sustainment capabilities have been degraded over time, limiting the ability of sustainment task forces suggested in the third concept, the Army as a battle-field enabler, to support joint and partner operations. Large-scale joint campaigns all rely on Army support to other services—disaggregated forces even more so.³² Our interviews with Army sustainment experts in the region suggest that the capabilities and capacities of theater sustainment organizations—namely, the 8th TSC and its subordinate Expeditionary Sustainment Command—require reinvestment.

Steps to Enhance Sustainment

In addition to the Army's current focus on developing concepts and technologies to support MDO, it should take three concrete steps to support the concepts presented in this report.

First, the Army should consider how it wants to prioritize its sustainment capability development efforts. Although it might not be necessary to add sustainment as one of its major modernization priorities (which would bring on a different set of problems of having too many priorities), it may wish to reevaluate its ongoing efforts to better focus them and tie them to ongoing MDO experimentation and development efforts. This research has identified sustainment as both a key Army role and likely challenge in INDOPACOM, making it worthy of additional Army focus. As the joint force, including the Army, further embraces distributed operations, this is likely to put more strain on sustainment capacity in the theater. This is closely related to issues of survivability, and sustainment may be a weak link for survivability within the first island chain.

Second, the Army must pay closer attention to reinvesting in its existing theater sustainment capabilities. These are the unspoken linchpins of all Indo-Pacific-related operational concepts across all services, while remaining largely implied. The capacities and capabilities needed to support these concepts as part of a joint campaign need reinvestment.

Finally, the Army might consider focusing the capabilities of the 25th Infantry Division's rapid sustainment response force on supporting these and other concepts that require modular sustainment task forces. The rapid response force can provide a solid foundation for any sustainment task force that demands rapid response.

ISR

Maintaining battlefield awareness in the Indo-Pacific theater is no small challenge. The Pacific Ocean is vast (63.8 million square miles), terrain is varied, and China and similar adversaries go to great lengths to obfuscate locations, dispositions, and activities of militarily relevant targets. This is especially true for mobile assets, such as missile launchers, inte-

³² See Bradley Cooper, *Precision Logistics: Sustainment for Multi-Domain Operations*, Institute of Land Warfare, Association of the United States Army, September 2019.

grated air defenses, and high-value aircraft. Any Army mission in the region will demand constantly updated information, so keeping track of these targets requires constantly gaining ISR advantages.

This is reflected in all three concepts proposed in this research. The ability to detect and make sense of Chinese and paramilitary targets and their activities is a central tenet in each one. In the information multiplier concept, the collection of information and sharing of it with other stakeholders to illuminate nefarious Chinese activities is the core tenet of the concept. The visible commitment concept demands constantly updated information about coercive activities to ensure that rapid responses by Army, joint, and partner forces to escalate or deescalate the situation are guided by accurate information. Finally, Army enabler contributions to joint operations in the battlefield enabler concept will likely take advantage of the Army's ability to maintain on-the-ground presence across a wide operational area; ISR is one mission in which this Army advantage can be most useful if its modernization efforts bear fruit. The importance of a robust and adaptable ISR capability for the Army is an important prerequisite for the concepts presented in this report.

Assessing the Status of ISR

Current Army efforts to modernize ISR are characterized by two themes: a focus on enabling long-range fires and the challenge of anticipating wider uses of ISR beyond that. We discuss both in the section below.

A Focus on Enabling LRPF

The Army is making significant investments in a variety of ISR capabilities. It is pursuing a novel collaboration with the National Reconnaissance Office to retain control of Army space-based ISR platforms and payloads. This complements its TSL program to produce expedited small-form-factor satellites under streamlined acquisition authorities; the first of these, the Gunsmoke L and J cubesats, were launched in 2021.³³

Additional development efforts include disaggregated air- and ground-based platforms under the Multi-Domain Sensor System program, as well as ISR capabilities that can be merged with EW capabilities in the truck-mounted TLS and processing aided by AI.³⁴ In particular, the TLS-EAB capability is expected to have sensing, direction-finding, jamming, and spoofing capabilities at ranges where it can detect over-the-horizon maritime targets.

Regarding AI, the Army and other services are investigating AI and machine learning (AI/ML) to help streamline processing, exploitation, and dissemination (PED) processes. There is great promise of AI/ML for intelligence production, particularly for basic exploita-

³³ Theresa Hitchens, "Exclusive: Army Plan May Loosen IC Grip on Sat-Based ISR," *Breaking Defense*, May 4, 2021.

³⁴ Nishawn S. Smagh, *Intelligence, Surveillance, and Reconnaissance Design for Great Power Competition*, Congressional Research Service, June 2020, pp. 21–23.

tion tasks—for example, identifying objects in an image or in a video or translating words. As the Army considers new operational concepts in the Indo-Pacific, it is important to keep in mind how advances in PED will affect both the workforce and technological requirements. For example, fewer people might be needed for exploitation tasks, but more people might be needed to analyze higher-order intelligence questions, since the basic exploited data would be automatically created in real time. Furthermore, there will likely be a need for well-integrated and powerful-enough computers at the tactical edge to participate in next-generation PED. It will also be important to improve interoperability among the software systems that power disparate ISR systems to enable next-generation PED.

This last point is especially important to the Army, which will presumably have a significant footprint at the tactical edge. For example, suppose that optical sensors were installed in High Mobility Multipurpose Wheeled Vehicles (HMMWVs) to look for improvised explosive devices (IEDs) and a computer were providing automatic exploitation of the sensor feed to alert soldiers to the presence of an IED. In this case, the computers on board the HMMWV would essentially run neural networks that have been pretrained to identify IEDs. The Army would have to ensure that the computers were capable of doing this, keep neural networks up to date (as parameters are updated), and, ideally, sync its algorithms with other services that might also spot and IED in an electro-optical image.

Army Investments Must Meet the Challenge of a Wider Potential ISR Mission Set

Despite these encouraging investments, there are three continuing challenges to Army ISR efforts in support of the operational concepts presented in this research. First, the focus of these investments currently is on supporting a LRPF capability.³⁵ This will be essential, for example, when employing the Long-Range Hypersonic Weapon (LRHW) against time-sensitive targets. However, the concepts presented here, especially the first and second concepts, suggest that there is a much wider set of missions in which Army ISR capabilities would be effective, especially during competition. Supporting ground-based LRPF would be a secondary mission at best.

A second challenge is that the Army must continue to strive for interoperable ISR capabilities across the joint force, allies, and partners. ISR support to joint fires during combat operations in the Indo-Pacific will benefit greatly from Army forces that are disaggregated and dispersed across the region if their presence can be leveraged. Army presence is a key advantage that other services and forces will rely on. Therefore, efforts to integrate emerging Army ISR capabilities with others (e.g., through Project Convergence experiments) should be encouraged.

³⁵ Most priorities listed in the Army's intelligence functional concept are related to ISR for kinetic targeting. See U.S. Army Futures Command, *Army Futures Command Concept for Intelligence*, AFC Pamphlet 71-20-3, September 2020, p. vii.

Lastly, the Army (and other services) must pay attention to communications and cybersecurity vulnerabilities. The ISR enterprise is already at risk of degraded communications and cyberattacks. Although the AI/ML previously described is not yet the common first step in exploiting ISR data, the fact is that an extraordinarily small fraction of ISR missions now involve taking photos and printing them on wet film. Almost all information is beamed down over communications links (satellite communications, specialty links, etc.) and stored digitally. This means that successful communications attacks could have a profound impact on the United States' ability to access the data that it captures. The ISR enterprise has built in significant communications redundancy, which serves to protect it from one-off degraded communications situations (either organic, due to technical malfunctions, or an attack), but the Chinese preference for systems destruction warfare should continue to motivate further strengthening of communications links.

Cybersecurity is different. While all digitally stored data across the ISR enterprise could be subject to cyberattack, there is a measure of protection that comes from the extremely distributed computing systems that house data and the fact that exploitation occurs all over the globe and data are not stored centrally. In fact, all the factors that make AI/ML projects tricky to instantiate also make them harder to attack.

This is changing. As AI/ML is advanced, data *are* getting centralized, regularized, and cleaned. Without a clear emphasis on cybersecurity, the ISR enterprise will be opening itself up to increased risk of cyberattack on the most-critical data. The Army and other services should pay close attention to the cybersecurity aspects of its emerging programs.

Steps to Enhance ISR

As the Army continues to invest in ISR modernization and new capabilities, it should consider three things to make these investments fit for the purpose of supporting the concepts presented here.

First, the Army should, in concert with its sister services, allies, and partners, pursue a more flexible ISR governance structure. This governance must be flexible enough to support collection management needs during day-to-day competition, during periods of crisis, and during major operations. While additional investments in ISR capabilities are encouraging, more-efficient and more-responsive prioritization are necessary.

Second, the Army should balance its conceptual development between supporting fires and Army-specific needs that might not involve target data. The emphasis on ISR modernization to support Army LRPF missions should be reconsidered; the needs of other, potentially more effective Army missions should be given appropriate weight.

Finally, the Army should investigate and experiment with the ability of task-organizing ISR capabilities to support a variety of contingencies. The concepts developed here make it clear that ISR capabilities (resident in I2CEWS and combat air brigade UAV units) are likely to be effective no matter what the situation is. However, the intensity of that need may vary,

and a less capable (but more responsive) set of ISR assets may be desirable in some situations. Disaggregating ISR units and capabilities into units that can be task-organized is essential.

A More Networked and Partnered Army in the Pacific

In the process of developing these concepts, the issues of interoperability, C2, sustainment, and ISR came up repeatedly. This suggested to us that any concept for the Army in the Indo-Pacific will require attention to address them.

To a large degree, they are not matters that require more new and untested technologies. Existing Army investments in technologies, such as those needed to enable more-effective C2 and ISR, are already being made. Improving the ability of the Army to meet these prerequisites also does not require substantial new investments in increased capacity, except in the case of reinvigorating theater sustainment capabilities that have atrophied since the early 2000s.

Rather, we observe that improving the Army's ability to meet these prerequisites is largely a matter of making adjustments to organizational strategy. In some cases, such as refocusing security cooperation activities to meet more-specific interoperability goals and rethinking ISR governance, it is a matter of reconceptualizing strategy to make it meet contemporary needs. In some cases, such as expanded C2 experimentation and prioritizing sustainment capability development, it is a matter of assessing existing efforts and refocusing on the most-promising directions.

In any case, these recommendations to improve the Army's interoperability, C2, sustainment, and ISR capabilities point to an underlying theory of success in the Indo-Pacific in scenarios involving China. That theory is that meeting the challenge of an increasingly militarily capable and economically dominant China will require a U.S. Army that is more partnered and more networked to increase its deterrent effect in competition and its military effectiveness as part of the joint force in crisis and conflict.

Where Does the Army in the Indo-Pacific Go Next?

When we set out to examine concepts for land power in the region, we expected to develop a number of concepts inspired by existing investments and initiatives. But in doing so, we found several important themes and insights that speak to the larger geopolitical and military context in the Indo-Pacific. The employment concepts we developed may be useful to Army concept developers, but articulating the underlying insights directly can also be beneficial.

The concepts developed during this project do not represent entirely new ideas for the application of land power, either in general or in the Indo-Pacific theater. From November 2021 to March 2022, Army leaders occasionally discussed some of these roles and missions. The ideas highlighted in these concepts are not totally novel. But the Army does not yet have a publicly stated concept for the roles it plays in the theater, and the concepts that have been raised—as in Army Secretary Christine Wormuth’s 2021 speech on the issue¹—remain broad and provisional. This project was designed to inform further Army thinking on more formal and detailed roles and missions, and the three concepts represent distinct (but not mutually exclusive) ways of conceptualizing those roles and missions.

China’s Military Power Is Growing Substantially, but It Will Try to Meet Its Strategic Goals Without Resorting to War

As we described in Chapters 2 and 3, it is now obvious that China’s pursuit of regional hegemony represents a serious threat to the U.S.-backed international order in the Indo-Pacific. China has increased its military power in ways that directly counter U.S. military advantages, but its substantial economic influence also allows it to pursue its goals using a much wider range of approaches than previous adversaries.

Most significantly, China seeks to use this wide range of approaches to achieve regional hegemony without resorting to war, if possible. Our examination of regional trends highlights three instantiations of this approach: intensified coercion of specific target countries,

¹ Andrew Eversden, “Wormuth: Here’s the Army’s Role in a Pacific Fight,” *Breaking Defense*, December 1, 2021.

the threat of large-scale maritime aggression, and distant border incursions. One of those problems implies the need to conduct major combat operations; the others may not.

Nevertheless, Chinese military force is likely to be used in service of coercing regional countries. China seeks to break established U.S. security relations with regional countries using direct intimidation with military and paramilitary force. Its maritime clashes with the Philippines over disputed territory are clear examples of this. But China's economic dominance may discourage regional countries from seeking direct U.S. support until the very late stages of a crisis or when a conflict has already begun.

This dynamic means that the Chinese operational approach has a nonlinear quality that will challenge U.S. policymakers and military leaders. Its peacetime shaping and targeted coercion activities are not steps on the road that ends with an eventual war. Rather, they are interchangeable tools used constantly to gain regional hegemony without resorting to major combat operations. This fluid, nonlinear quality goes against the grain of typical U.S. strategic thinking, which has long emphasized serial phases of conflict. Consequently, this Chinese approach needs to be accounted for in any new Army operational approach or employment concept.

Our Concepts Highlight New Ways to Leverage Army Combat Power

Our research suggests that the Army's approach to addressing the Chinese threat is largely correct. The Army and USARPAC specifically must focus on nurturing partnerships and presenting a forward-leaning posture during competition to prevent or counter Chinese peacetime shaping and coercion activities. Additionally, the emerging doctrine of MDO has the potential to position the Army as a critical enabler of the joint force in crises or conflict should it occur.

However, there are two notable differences between the concepts developed through our constraints-based approach and the Army's current direction. One has to do with large-scale force flow and the classic role of ground forces in closing with and destroying enemy forces and subsequently occupying territory. Our analysis suggests that only under extremely narrow circumstances will the vision of large-scale land force projection be relevant in this theater in scenarios involving China. In most contingencies involving China, the intersecting tyrannies of distance, time, geography (including the absence of large-scale land masses to contest), and limits on U.S. strategic and intratheater lift mean that land forces simply will not deploy in large numbers very quickly or contribute decisive force to a conflict in a timely manner.

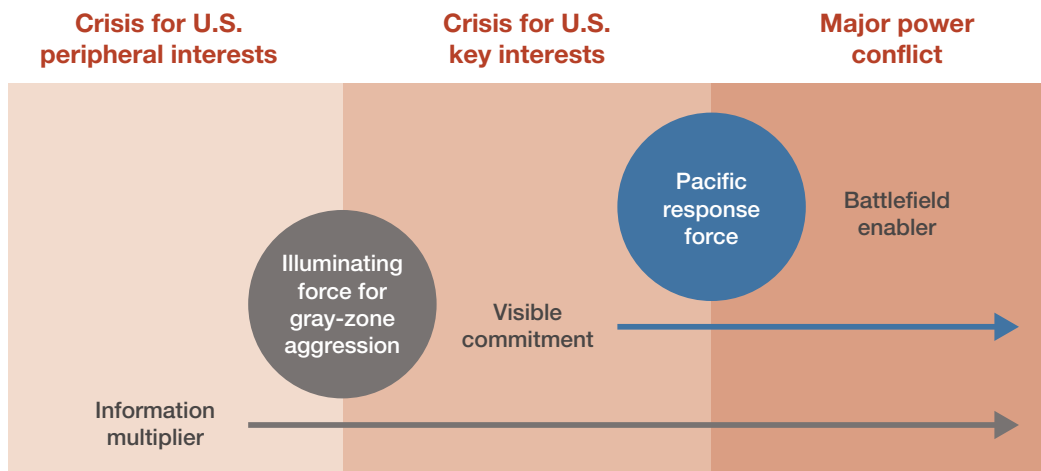
Second, our analysis suggests a more specialized and narrower role for LRPF than what the Army has implied in its modernization strategy. These do play selected, discrete roles in the most-promising concepts identified by this project. But constraints on access, range, and

the effects of major strike systems mean that LRPF will not likely provide a decisive role for the Army under any plausible scenarios.

Instead, our approach suggests that the Army can use its wide range of capabilities and substantial capacity to field forces that are more carefully tailored to meet the needs of states under political and military pressure from China. For instance, the IE CFTs provide U.S. country teams and the nations they support more ready access to the Army's information operations capabilities to highlight malign Chinese activities. The visible commitment force concept (in the form of the Pacific response force) is inspired by existing organizations that emphasize rapid deployability, such as the Global Response Force. But instead of a response force of light infantry, our concept offers C2 and ISR capabilities that are directly useful in countering Chinese coercion.

These tailored forces are light enough that they effectively address the significant constraints of time, space, and geography in the region. But their capabilities still have substantial military utility in competition and crisis while signaling U.S. commitment to the nation under pressure. They also lay the foundation for the effective employment of the joint force should conflict erupt. Most significantly, though, they share the same fluid quality that Chinese approaches do. Forces used in the information multiplier concept may be useful in both crisis and competition. Battlefield enabler task forces and cells might provide an effective signal that allows for deescalation during a crisis. Figure 11.1 illustrates this dynamic. This fluidity enables the degree of flexibility needed to effectively disrupt the mix of informational, military, and paramilitary tools China is using to achieve its goals.

FIGURE 11.1
Utility of Employment Concepts Across Conflict Phases



Investments Are Needed to Realize These and Other Concepts

If the Army wishes to implement these or similar concepts, our research suggests that it should consider an expansion of some current investments, as well as new ones. First, the prerequisites and concepts outlined in this report would strongly benefit from a continuing and expanded suite of ongoing peacetime engagement with partners in the region, including engagement using existing rapid response units. These engagements can help strengthen regional posture and provide intelligence and sustainment preparation of the battlefield. The engagements can be used specifically to enhance the interoperability of systems and C2 architectures; this is especially important for rapid response forces that will need to engage seamlessly with partners during crises.

This analysis also reinforces the importance of the Army's multiple current initiatives in ISR and information sharing, such as Project Convergence. Sensing, domain awareness, and the sharing and processing of networked information are likely to be central concerns of any Army regional role. The Army would also benefit from new experiments with C2 concepts to provide a regional architecture that is flexible, resilient, and redundant enough to address the risks of system destruction by China.

To fulfill the rapid deployment requirements suggested in this study, the Army could also benefit from investigating and experimenting with various forms of task-organized units, such as teams needed for information advantage. It could consider developing a Pacific response force that focuses existing rapid response capabilities into ones designed to specifically counter Chinese activities. These investments are not incidental, but by basing them on existing initiatives and investments, they are not infeasible either.

Finally, we found that the overall thrust of the Army's operational approach in the Indo-Pacific suggests that, no matter what employment concepts it chooses to pursue, it must be more partnered and more networked than ever before. Thankfully, the Army's current investments in material modernization and doctrinal development provide solid foundations to meet this goal. The Army must now take stock of these investments and make adjustments to more effectively prepare itself for the operational environment.

Closing Thoughts

Finally, we acknowledge that the Army capabilities alone will not completely disrupt China's activities. Chinese peacetime shaping is largely diplomatic and economic, with no obvious role that the Army can productively play. Similarly, Chinese intensified coercion against states includes significant economic pressure, which again has no obvious military component. The contribution of land power in the Indo-Pacific can be substantial and useful, but it can never replace the other elements of national power that must be brought to bear to blunt Chinese status in the region.

Moreover, the geography and geopolitical landscape in the region will likely make any major combat operation to thwart Chinese strategic goals a campaign in which decisive

action will occur in air, maritime, space, and cyber domains. Land power has a substantial role to play in supporting such an operation. However, it is difficult to conceive of a scenario in which land power is independently decisive.

Nevertheless, our analysis reveals essential and powerful roles for land forces in the Indo-Pacific across the spectrum of conflict, particularly in competition. Those roles build on inherent advantages of land forces that have been and remain evident in the Indo-Pacific. *One role is the maintenance of deep relationships with key institutions and actors in partner nations.* Many militaries in Indo-Pacific countries are land-centric and dominated by armies, giving the U.S. Army a structural advantage in relationship building. *Ground forces can be present for extended periods* in ways that other services are not typically able to do, even when they are deployed as rotational forces. Another key advantage of land forces is the provision of deterrence and assurance effects, which are more potent when delivered by land forces. *Ground forces also play critical roles in competition short of war,* in training, exercises, humanitarian assistance and disaster recovery, medical and engineering missions, and much more.

Our three proposed concepts frame the Army as what we termed the *forward service* in the theater, an admittedly abstract phrase that speaks to the idea of land forces as the foundational architecture on which U.S. regional presence is built. In the dispersed, distributed, networked, machine-learning-driven future that is MDO, land forces have critical roles to play, without which the joint force is unlikely to succeed.

Partner-Nation Access

In this assessment, we sought to identify plausible constraints on U.S. Army operational concepts and power projection approaches caused by partner nations. This factor may indeed be the most powerful single constraint on conceptual thinking behind the Army's role in the Indo-Pacific: What partners are willing to do, or even allow the United States to do from their territories, will impose strict limits on what the Army in particular can accomplish. In this appendix, we describe the research conducted to assess partner constraints and offer a summary set of assumptions to be used by Army concept developers. As we will stress, those assumptions do not represent precise forecasts: The actual decisions of partners and allies in any given crisis will be highly situation dependent. Using what we know about the interests, preferences, public statements, and perceptions of these countries, however, we consider these assumptions to be a plausible basis from which to construct concepts for the Army's role in the region.

Analytical Considerations

RAND has conducted extensive analyses on partner perspectives over the past several years, as well as studies on the factors that govern access. We relied on that research foundation for these conclusions and updated it with new research on the latest public statements, national security strategy documents, and other developments. In the process, we considered evidence on several variables identified by RAND research as tending to influence access decisions (which will often parallel those which govern decisions to support the United States in case of war):¹

¹ Stacie L. Pettyjohn and Jennifer Kavanagh, *Access Granted: Political Challenges to the U.S. Overseas Military Presence, 1945–2014*, RAND Corporation, RR-1339-AF, 2016. The authors concluded, “The United States has been incredibly successful in securing contingency access during this period. Since 1945, 90 percent of U.S. formal requests have been granted, with only 5 percent restricted and 5 percent denied” (p. 77). But those historical cases were dominated by such things as humanitarian assistance and disaster recovery and limited strike operations. The historical success rate tells us very little about the judgments of Indo-Pacific countries in a major conflict.

- self-interest
- legitimacy
- fear of retaliation (in military, economic, or geopolitical and diplomatic terms), including degree of vulnerability to punishment
- domestic politics
- regime type (authoritarian systems or emerging democracies pose a higher risk of access disruption)
- type of relationship (whether the U.S. tie to the country is mainly transactional, based on temporarily aligned interests, or grounded in a deeply established partnership).

After reviewing these analyses to judge the ways in which partners might react to a crisis or conflict, we considered the potential for their support in a number of specific forms:

- simple overflight or transit through territorial waters as part of noncombat operations (ISR, combat search and rescue, logistics etc.)
- overflight or transit while conducting strike operations
- participation of the host nation in noncombat operations
- operating from the host nation's territory to conduct C4ISR, combat search and rescue, and logistics
- operating from the host nation's territory to conduct combat and strike operations
- participation of the host nation's forces in combat operations.

The sections that follow summarize the evidence, by nation, from existing RAND reports and our new survey of official strategies and statements, and any new agreements with the United States, that bear on these questions.

Australia

Australia remains highly supportive of its alliance with the United States. Relations were somewhat strained during the Donald Trump administration, but Australia remained committed to its strategic alliance with the United States as a counterweight to China.² Then–Australian Prime Minister Scott Morrison worked hard to accommodate and build ties with Trump and committed to working with Joe Biden as well to strengthen the alliance.³ Australia's *2020 Defence Strategic Update* committed Australia to deepening its alliance with the United States, as well as other regional states, and stated, “The security arrangements, interop-

² Colin Packham, “U.S., Australia Discuss China and Myanmar in First Leaders Call, White House Says,” Reuters, February 3, 2021. For a comprehensive analysis of Australian responses to intensifying U.S.-China competition, see Michael S. Chase and Jennifer D. P. Moroney, *Regional Responses to U.S.-China Competition: Australia and New Zealand*, RAND Corporation, RR-4412/1-AF, 2020.

³ Daniel Hurst, “Renewing the Alliance: The Biden Administration and What It Means for Australia,” *The Guardian*, January 20, 2021.

erability, intelligence sharing, and technological and industrial cooperation between Australia and the United States are critical to Australia's national security."⁴ The guidance also calls U.S. nuclear and conventional forces the "only . . . effective deterrence against the possibility of nuclear threats against Australia."⁵ In addition, the guidance argues that Australia must build its capabilities to operate independently and lead military operations, as needed, and that the Australian Defence Force may need to engage in high-end conflict or "support the United States and other partners where Australia's national interests are engaged."⁶

In recent years, China-Australia tensions have been on the rise. For example, starting around 2016, Australian authorities discovered a number of covert Chinese influence operations targeting Australian politicians, universities, and Australians of Chinese descent, culminating in 2018 legislation to curb the influence of lobbyists for foreign governments and to block clandestine Chinese Communist Party channels of influence. These moves have also caused China's approval ratings with the Australian public to plummet to less than one-third by 2019.⁷ Canberra's call for an independent international inquiry into the origins of COVID-19 has also drawn China's ire, resulting in Chinese sanctions against Australian products. In late 2020, Chinese foreign ministry spokesman Zhao Lijian reposted a doctored image on his Twitter account of an Australian soldier murdering an Afghan child, in response to new revelations that Australian special forces in Afghanistan had participated in extrajudicial killings. Then-Prime Minister Morrison demanded that the image be taken down, leading to a diplomatic spat mostly on social media, especially after Morrison's appeal to Chinese Australians on WeChat (a Chinese-run social media platform) were censored.⁸ Australia's *2020 Defence Strategic Update* repeatedly identifies China and Chinese actions (including gray-zone activities and the establishment of military bases) as key potential threats to Australian security.⁹ However, Morrison in late 2020 characterized the Sino-Australian relationship as "mutually beneficial" and said that he was open to "constructive engagement" with Beijing, which remains Canberra's largest trading partner.¹⁰ Although Morrison had been willing to confront China on many issues, he has also avoided using the harsher Cold War

⁴ Australian Department of Defence, *2020 Defence Strategic Update*, July 1, 2020, pp. 26–27.

⁵ Australian Department of Defence, *2020 Defence Strategic Update*, p. 27.

⁶ Australian Department of Defence, *2020 Defence Strategic Update*, pp. 26–27, 29.

⁷ Amy Searight, "Countering China's Influence Operations: Lessons from Australia," CSIS, May 8, 2020. Less than one-third of Australian survey respondents answered that they felt that China could be trusted to act responsibly in the world, down from over one-half in 2017.

⁸ Preeti Jha and Frances Mao, "China and Australia: How a Twitter Spat Quickly Escalated," BBC News, December 3, 2020.

⁹ Australian Department of Defence, *2020 Defence Strategic Update*, pp. 10–14.

¹⁰ Nick Perry, "Australian Leader Seeks Conciliation in Dispute with China," Associated Press, December 3, 2020.

rhetoric of some American officials, and Australian officials have expressed discomfort with U.S. moves to contain China.¹¹

Perceptions of increasing threats from China and cognizance of the importance of the United States to Australia's defense suggests that Australia would welcome American intervention in a conflict to which it was a party, although it might seek to take the lead in any conflict it felt its own forces could handle. Given Canberra's expansive view of its security interests in the broader Indo-Pacific region and emphasis on the importance of allies and partners, Australia is probably relatively open to cooperating with the United States in regional contingencies in which it is not directly involved. It will also likely cooperate with the United States to shape the strategic environment, engaging in multilateral military cooperation to influence states in the region.

India

Since the founding of the modern Indian state by Jawaharlal Nehru in 1947, New Delhi has predominantly steered clear of forging security alliances with other nations and has instead pursued a nonaligned foreign and security policy.¹² However, the utility of maintaining strict adherence to nonaligned policy has routinely been questioned, particularly during tumultuous periods in recent Indian history. Most notably, India's loss of a Himalayan border war against China in 1962 fueled concerns that New Delhi lacked adequate external support to balance Beijing's superior military power. And as India and Pakistan were at war in 1971, the U.S. decision to officially recognize China and support Pakistan with arms prompted India to break nonalignment by signing the Indo-Soviet Treaty of Friendship and Cooperation.¹³ Despite these intriguing developments, the center of gravity of Indian foreign and security policy has been, and remains, nonalignment in the international system.

In recent years, however, China's growing assertiveness throughout the Indo-Pacific region—including against India at Doklam in 2017 and once again along the disputed Line of Actual Control in the Himalayas in May and June 2020—has fueled Prime Minister Narendra Modi's plan to shift India away from Nehruvian nonalignment and toward a stron-

¹¹ James Curran, "How Morrison Won—and What His Win Means for the U.S.-Australia Alliance," Council on Foreign Relations, May 20, 2019.

¹² For more on the origins of India's nonaligned foreign policy, see Lorne J. Kavic, *India's Quest for Security: Defence Policies 1947–1965*, University of California Press, 1967. For more on the evolution of Nehruvian nonaligned foreign policy, see Sumit Ganguly and Manjeet S. Pardesi, "Explaining Sixty Years of Indian Foreign Policy," *India Review*, Vol. 8, No. 1, 2009. In the past several decades, Indian experts have argued that India's foreign policy has been shifting away from Nehru's nonalignment stance, even if it remains the lodestar. See, for example, C. Raja Mahan, *Crossing the Rubicon: The Shaping of India's New Foreign Policy*, Palgrave Macmillan, 2004. For an argument against Nehruvian policy, see Ramesh Thakur, "India After Nonalignment," *Foreign Affairs*, Vol. 71, No. 2, Spring 1992.

¹³ Although not a formal military alliance, the treaty signaled unprecedented cooperation between India and the Soviet Union against the United States, China, and Pakistan during the Cold War.

ger U.S.-India security partnership.¹⁴ Today, the U.S.-India security relationship is increasingly robust, featuring, for example, annual “2 + 2” dialogues (with two leaders from each nation) and “foundational” military communications and logistics agreements.¹⁵ As discussed in other RAND reports, New Delhi in recent years has also become an important recipient of U.S. security cooperation. Beyond the United States, RAND has assessed how India, among other countries, has further bolstered security ties to additional partners that can help New Delhi achieve its broad foreign policy and defense goals, including countering China.¹⁶ Indeed, although nonalignment remains the guiding light of Indian foreign and security policy, New Delhi’s recent opening up to external partners, including the United States, has prompted some Indian watchers to now refer to Indian foreign policy as being one of *multialignment*—that is, the shoring up of relationships with multiple states simultaneously without choosing any one or group of them over the others.¹⁷

If India is the target of Chinese aggression leading to a crisis scenario, then it is likely to welcome U.S. support, but perhaps only quietly. During the latest clashes with China along the Line of Actual Control in May and June 2020, the Trump administration reportedly offered assistance, but New Delhi politely declined, at least publicly.¹⁸ Optics are quite significant for India, as it wants to appear competent to handle its own affairs. If India is not directly targeted during a crisis situation, then New Delhi may provide limited support to the U.S. military via preexisting agreements. For example, under the Logistics Exchange and Memorandum Agreement signed in 2016, the United States conducted its first-ever refueling mission, in October 2020, using India’s military facilities on the Andaman and Nicobar Islands, located in the Indian Ocean along the approach to the Strait of Malacca. New Delhi may allow these types of activities to continue during a crisis, especially against China. A wartime scenario directly focused on India is likely to see New Delhi reaching out to Washington for support. But if the U.S. military is conducting kinetic operations against China in another region of the Indo-Pacific on behalf of another country, then Indian support may barely surpass that seen in a crisis to avoid unnecessarily antagonizing Beijing.

¹⁴ For more on Modi’s intentions, which appear to be mostly driven by ideological rather than realist or pragmatic considerations, see Ian Hall, *Modi and the Reinvention of Indian Foreign Policy*, Bristol University Press, 2019.

¹⁵ Joshua T. White, *After the Foundational Agreements: An Agenda for U.S.-India Defense and Security Cooperation*, Brookings Institution, January 2021.

¹⁶ Harold et al., *The Thickening Web of Asian Security Cooperation*.

¹⁷ Ashley J. Tellis, “Non-Allied Forever: India’s Grand Strategy According to Subrahmanyam Jaishankar,” Carnegie Endowment for International Peace, March 3, 2021.

¹⁸ The U.S. Pacific Air Forces commander in December 2020 said that the United States had been providing intelligence support to India. See Christopher Woody, “The US Is Helping India Keep an Eye on China’s Military, Top US Commanders Say,” *Business Insider*, December 22, 2020.

Indonesia

For decades, Indonesia has maintained a security policy of nonalignment derived from its deeply held suspicions of all external powers.¹⁹ Indeed, Indonesia played a very prominent role in the Non-Aligned Movement during the Cold War as the host of the first meeting at Bandung, in 1954. Although recent tensions with China over sovereignty disputes in the countries' adjacent waters—where the southernmost dash of Beijing's nine-dash line meets the Natuna Sea—may have shaken Indonesia's approach slightly, it is highly unlikely Jakarta will align with Washington as a result.²⁰ For example, the Trump administration, in an attempt to capitalize on the Natuna dispute, invited Indonesian Minister of Defense Prabowo Subianto in October 2020 to the Pentagon in a reversal of decades-long sanctions against him for past human rights violations. The outcome was that Washington received no firm commitments that Jakarta would assist the Trump administration's Indo-Pacific strategy against China. The reality is that Indonesia still benefits significantly from maintaining productive relations with China, especially through leveraging Belt and Road Initiative trade, investment, and infrastructure deals and Beijing's COVID-19 vaccine diplomacy.²¹

Because of its strict nonalignment policy, Indonesia is unlikely to offer assistance to the U.S. military in a crisis situation in the Indo-Pacific, even if it directly involves Indonesia. This is apparent from Jakarta's response to Beijing allowing dozens of fishing boats with China Coast Guard escorts into the Natuna Sea region in late 2019 and into early 2020. Indonesian authorities responded swiftly, summoning China's ambassador to lodge a protest and subsequently dispatching warships and F-16 fighter jets to patrol the region. Jakarta further called on its own fishing vessels to relocate to the Natuna Islands to compete with Chinese fishers, and President Joko Widodo (or Jokowi, as he is widely known in Indonesia) declared there would be “no compromise” on “our nation's territorial sovereignty.” He visited the Natuna Islands two days later to demonstrate his point. There was no publicly acknowledged outreach to the United States. Jakarta may, however, strongly consider U.S. military access during wartime to defend its sovereignty and territorial integrity, especially with a lack of other viable powers to help it do so. A wartime scenario apart from Indonesian shores, however, would almost certainly not be supported.

Japan

Japan remains highly supportive of the U.S. alliance, especially as U.S.-China competition intensifies throughout the Indo-Pacific, making it one of the cornerstones of American

¹⁹ For previous RAND research on Indonesia, see Blank, *Regional Responses to U.S.-China Competition in the Indo-Pacific: Indonesia*.

²⁰ For a good summary of recent China-Indonesia tensions over the Natuna Sea region, see Sebastian Strangio, “Indonesia Beefs Up Its Natuna Island Patrols: Report,” *The Diplomat*, January 14, 2021.

²¹ Resty Woro Yuniar, “China and Indonesia to Boost Trade as Widodo's Sinovac Shot Underlines ‘Brotherly Relations,’” *South China Morning Post*, January 13, 2021.

defense and foreign policy in the region.²² Indeed, the Japanese foreign ministry *Diplomatic Bluebook 2020* described the Japan-U.S. alliance as the “cornerstone of Japan’s foreign policy” and committed to strengthening it.²³ Soon after President Biden took office, Prime Minister Yoshihide Suga called him, and both leaders agreed to strengthen the U.S.-Japan alliance, asserted their desire to see the Korean peninsula denuclearized, and noted that the Senkaku (Diaoyu) Islands were covered by the U.S.-Japan mutual defense treaty.²⁴ Suga was a long-time chief cabinet secretary of the former prime minister, Shinzo Abe, and is likely to continue his predecessor’s policy of strong support for the American military presence in Japan and more muscular Japanese policy in the region.²⁵ Suga was reportedly one of the driving forces behind Abe’s decision to reinterpret Japan’s constitution to allow participation in collective defense.²⁶ In general, the Japanese public is quite supportive of Tokyo’s constitutional renunciation of military aggression. Peacetime access remains somewhat controversial, especially on Okinawa. American military bases are generally supported by the central government, which provides substantial financial support to local communities to prevent opposition to nearby American bases.

In February 2021, Japan and the United States renewed their burden-sharing arrangement to allow U.S. forces to remain, with continuing Japanese support. Japan will pay about \$1.9 billion through 2022.²⁷ Although the Japanese public in general tends to be quite supportive of the U.S. alliance, local people tend to resent nearby U.S. bases and protest against any change or increase in base operations. Images in 2020 of American military personnel partying and laws allowing the United States to move service members in and out of Okinawa without following normal Japanese transportation guidelines during the COVID-19 pandemic sparked further local resentment against the American military presence on the island.²⁸ Okinawan Governor Denny Tamaki continues to oppose the construction of a new base to relocate the Marine Corps Air Station Futenma to the Henoko coast and continues to use legal means at his disposal to delay construction (such as denying requests to the local

²² For a comprehensive analysis of Japanese responses to intensifying U.S.-China competition in the Indo-Pacific, see Scott W. Harold, *Regional Responses to U.S.-China Competition in the Indo-Pacific: Japan*, RAND Corporation, RR-4412/4-AF, 2020.

²³ Motegi Toshimitsu, “Preface,” in *Diplomatic Bluebook 2020: Japanese Diplomacy and International Situation in 2019*, Ministry of Foreign Affairs of Japan, 2020.

²⁴ Kiyoshi Takenaka and David Brunnstrom, “Suga Says He and Biden Agree to Strengthen U.S.-Japan Alliance,” Reuters, January 27, 2021.

²⁵ Caitlin Doornbos, “‘Continuity Candidate’: Experts Say Japan’s New Prime Minister Will Keep Abe’s Pro-Military Stance,” *Stars and Stripes*, September 17, 2020.

²⁶ Doornbos, “‘Continuity Candidate.’”

²⁷ “Japan, US Extend Agreement on Military Base Payments,” Al Jazeera, February 17, 2021.

²⁸ Kana Inagaki and Leo Lewis, “Okinawa’s Anger over U.S. Military Bases Stoked by Coronavirus Surge,” *Financial Times*, August 20, 2020.

government for ground improvement projects).²⁹ Suga was a key proponent of the new base construction before becoming Japan's top leader, making it unlikely that Japan will scrap plans for the relocation under his administration.³⁰ In reality, this level of focus on local issues about U.S. basing in Japan is much more reflective of the depth and long-term nature of the U.S. military presence in Japan than a unique feature, or issue, for U.S. overseas basing.

Japan's continued confrontation with China over the Senkaku (Diaoyu) Islands makes it quite likely that Japanese forces would vigorously contest any PLA attack on Japanese-administered territory and would seek the help of the United States in any such confrontation. Although Japanese support cannot be guaranteed for American use of bases in Japan for a contingency that does not directly involve Japan, the overall level of support for the Japan-U.S. alliance and Tokyo's proactive pursuit of a "free and open Indo-Pacific" as a part of its own security suggest a stronger willingness than perhaps any other regional state to support the United States and its allies in regional contingencies. Tokyo's oft-repeated calls for a "free and open Indo-Pacific" and policy initiatives to get other countries to cooperate to make this vision a reality demonstrate a deep willingness to counter Chinese unilateralism in the South China Sea.³¹ Japan's new defense minister, Nobuo Kishi, is noted for his pro-Taiwan stance. While officially affirming Japan and China's joint declaration of 1972, which mandates that Japan have no government-government relations with Taiwan, he has also expressed openness to security coordination between Taipei, Tokyo, and Washington. Prior to his appointment, Kishi visited Taiwan in conjunction with U.S. Health and Human Services Secretary Alex Azar.³² Japan's *Diplomatic Bluebook 2020* upgraded Taiwan to "an extremely important partner," and the *Diplomatic Bluebook 2019* described it as a "crucial partner."³³

Malaysia

Although Malaysia is an official maritime counterclaimant to China's expansive nine-dashed line claim based on historical territorial rights in the South China Sea, Kuala Lumpur has nevertheless continued to assiduously steer a course of nonalignment in its security policy. When long-time Prime Minister Mahathir Mohamad, who had served from 1981 to 2003, was once again elected in May 2018 in a surprise result, some observers in the West hoped

²⁹ "Okinawa Urges PM to Scrap U.S. Base Move Plan Before Key Anniversary," Kyodo News, May 10, 2022.

³⁰ Shohei Okada, Mika Kuniyoshi and Junya Sakamoto, "Suga Government Unlikely to Budge on Okinawa Base Relocation Issue," *Asahi Shimbun*, September 20, 2020.

³¹ Ministry of Foreign Affairs of Japan, *Diplomatic Bluebook 2020: Japanese Diplomacy and International Situation in 2019, 2020*, pp. 8–9, 12–13.

³² Rajaram Panda, "Suga's Taiwan Policy," *The Statesman*, October 20, 2020; Nobuo Kishi, Japanese State Minister for Foreign Affairs, transcript of interview with the *Liberty Times*, "Interview: Kishi Urges Stronger Taiwan-U.S.-Japan Ties," *Taipei Times*, December 19, 2016.

³³ Bertil Lintner, "Japan Holds the Key to Biden's China Containment Strategy," *Asia Times*, February 2, 2021.

that Mahathir would overturn nonalignment and pursue closer ties with the United States and its allies and partners against China. This, however, did not happen. In an interview in June 2018, Mahathir resisted any sort of alignment with the United States (or China), observing: “I think there should not be too many warships. Warships create tension. . . . [S]omeday, somebody might make some mistakes and there will be a fight, some ships will be lost, and there might be war.”³⁴ Mahathir further pledged to reconsider and even cancel previous Belt and Road Initiative deals forged with China, but in the end, only the price tag for the East Coast Rail Line megaproject was reduced by one-third.³⁵ Following Mahathir’s departure from office in March 2020, his successor, Muhyiddin Yassin, has broadly retained a non-aligned approach. However, Malaysia on at least six occasions has pushed back against Chinese claims in the South China Sea, especially in the disputed region of South Luconia Shoals in the Spratly Islands. Most significantly, in December 2019, Kuala Lumpur submitted an official continental shelf claim to the United Nations, which Beijing vigorously urged the body to reject.³⁶ These actions suggest that, although Malaysia is officially nonaligned, it nevertheless harbors deep concerns about China’s growing assertiveness in the South China Sea.

Moreover, Malaysia’s nonaligned policy is somewhat contradicted by its decades-long membership in the FPDA—a defense multilateral group composed of Australia, Malaysia, New Zealand, Singapore, and the United Kingdom.³⁷ The FPDA was originally conceived of in response to Indonesia’s “confrontation” with Malaysia in 1962, a small and undeclared war that resulted in Malaysia joining the other four countries to enhance its defense. Key features of the FPDA include an integrated air defense system and Australian troops forward deployed to Malaysia’s Butterworth Air Base. Hence, it is plausible that, whether in a crisis or wartime scenario, the U.S. military might leverage the FPDA through allies and partners within the multilateral group to work with and through Malaysia to accomplish certain objectives. But given Malaysia’s overall nonaligned status, it is likely to severely circumscribe and limit FPDA cooperation to avoid appearing to align against China. It is also very unlikely that Malaysia would engage the United States directly on these issues and support U.S. military operations, as doing so would be considered overly provocative. The only major possible exception is if Beijing took military action against Kuala Lumpur’s South Luconia Shoals claims in the South China Sea.

³⁴ Bhavan Jaipragas, “Forget the Warships: Malaysian PM Mahathir’s Peace Formula for the South China Sea,” *South China Morning Post*, June 19, 2018.

³⁵ Shankaran Nambiar, “Why Malaysia’s Prime Minister Is Warming to China’s Belt and Road,” *War on the Rocks*, June 11, 2019.

³⁶ Oceans and Laws of the Sea, United Nations, “Commission on the Limits of the Continental Shelf: Outer Limits of the Continental Shelf Beyond 200 Nautical Miles from the Baselines; Submissions to the Commission; Partial Submission by Malaysia in the South China Sea,” December 12, 2019.

³⁷ For a good discussion on the FPDA, see Euan Graham, “The Five Power Defence Arrangements at 50: What Next?” International Institute for Strategic Studies, December 10, 2020.

Micronesia and the Broader Oceania

Oceania is a vast region in the Pacific composed of Australasian, Melanesian, Micronesian, and Polynesian states. One area of particular geostrategic relevance to the U.S. military is the FAS. The FAS reside in the Micronesian subregion of the North Pacific, in the vicinity of U.S. territories Guam and the Northern Mariana Islands, and include the Marshall Islands, Federated States of Micronesia, and Palau. These three independent and sovereign nations maintain special agreements with the United States called COFAs. COFAs provide the United States with near-exclusive military access to not only the FAS land holdings but also the ocean water and airspace between them, equal to a vast region approximately the size of CONUS. As described in past RAND research, the FAS “are tantamount to a power projection superhighway running through the heart of the North Pacific into Asia. It effectively connects U.S. military forces in Hawaii to those in theater, particularly to forward operating positions on the U.S. territory of Guam.”³⁸ In other words, maintaining uninhibited access to the FAS would be highly beneficial for U.S. troop movements into the Indo-Pacific to address a Taiwan, South China Sea, East China Sea, or Korea contingency. The FAS countries do not field militaries of their own, and they have completely outsourced their defense to the U.S. military in exchange for annual economic assistance and benefits to their citizens usually accorded to U.S. citizens, such as special education and work visas.

From Beijing’s perspective, the U.S. military plans to leverage its advantages in these nations in the second island chain, along with the American territories of Guam and Northern Mariana Islands, to great effect during wartime. Thus, China has been attempting to weaken U.S. linkages with FAS countries by offering economic incentives through the Belt and Road Initiative. The FAS and, more broadly, the Oceanic states, are particularly susceptible to Belt and Road Initiative proposals, as the states are uniformly small and impoverished. Countries in competition with China worry that so-called debt diplomacy, born from unfair and opaque Belt and Road Initiative deals, can ultimately lead to Beijing acquiring additional rights in recipient nations, including basing rights, in geostrategically significant regions. Finally, China may be looking to exploit any impasse in Washington’s COFA renegotiations with the Marshall Islands and Federated States of Micronesia, expiring in fiscal year 2023 without a deal, and with Palau, expiring in fiscal year 2024 absent a new agreement. However, in the case of Marshall Islands, the United States maintains a multidecade land lease on Kwajalein Atoll, home of the Ronald Reagan Missile Defense Test Site. This agreement is outside the bounds of the COFA.

During a crisis scenario, the FAS countries are almost certain to support U.S. military objectives and missions. Their COFAs mandate such assistance. However, in a wartime contingency, FAS support may be in slightly greater doubt. According to the terms of the COFAs, the United States may not declare war on behalf of the FAS. The states would have to decide

³⁸ Derek Grossman, Michael S. Chase, Gerard Finin, Wallace Gregson, Jeffrey W. Hornung, Logan Ma, Jordan R. Reimer, and Alice Shih, *America’s Pacific Island Allies: The Freely Associated States and Chinese Influence*, RAND Corporation, RR-2973-OSD, 2019.

for themselves whether to go to war and thus could, in theory, decide to oppose war. This is highly unlikely but still possible. Second, stemming from U.S. testing of nuclear weapons in the Pacific during the Cold War, Washington may not store weapons of mass destruction in the FAS, except in “time of a national emergency,” “state of war,” or when “necessary to defend against an actual or impending armed attack.”³⁹ This could limit certain U.S. options in wartime.

Philippines

Since the election of Philippine President Rodrigo Duterte in 2016, Manila has attempted to reduce its perceived reliance on Washington for security under the MDT. Duterte, who is both anti-American and pro-Chinese in his approach, has attempted to forge closer ties with not only China but Russia as well. As part of his push back against the United States, Duterte in February 2020 decided to issue a notice of termination for the U.S.-Philippines VFA. Signed in 1998, the VFA facilitates easier U.S. troop movement into and within the Philippines and is considered a key enabler of the MDT. In other words, if the Philippines were ever attacked, then the VFA would allow U.S. troops to retaliate from within the Philippines. Under the agreed-upon rules, VFA termination was not immediate and required a six-month renegotiation period. As it turns out, Duterte decided in June 2020 to extend the renegotiation period (in effect keeping the VFA intact) and did so again in November 2020 until August 2021.⁴⁰

Another important component of U.S. military access to the Philippines is the EDCA. Inked in 2014, the EDCA allows the U.S. military to build facilities and preposition both equipment and troops in the event of a contingency. An additional bilateral settlement in 2016 designated five Philippine military bases as EDCA locations: Basa Air Base, Fort Mag-saysay, Antonio Bautista Air Base, Mactan-Benito Ebuen Air Base, and Lumbia Airfield. Once Duterte came to power, however, the EDCA was essentially frozen in place, raising concerns among experts that the U.S.-Philippines alliance under the MDT lacks the deter-

³⁹ Pub. L. 108-188, Compact of Free Association Amendments Act of 2003, December 17, 2003.

⁴⁰ In his two VFA extension statements, Philippine Secretary of Foreign Affairs Teodoro Locsin, Jr., strongly suggested that the Philippines must keep the agreement to deter China. For example, on June 2, 2020, he said, “in a time of pandemic and heightened super power tensions,” it would be wise to keep the VFA in place. Then, on November 10, Locsin noted: “The past four years have changed the South China Sea from one of uncertainty about great powers’ intentions to one of predictability and resulting stability with regard to what can and cannot be done, what will and will not be acceptable with regard to the conduct of any protagonist in the South China Sea. Clarity and strength have never posed a risk. It is confusion and indecision that aggravate risk.” For the first time, Locsin cited great power competition in the South China Sea as a reason for suspending VFA termination. Making this connection clearly implies that Manila trusts and sides with Washington—“clarity and strength [per the alliance]—over Beijing in the most important security context. For more on the June 2 statement, see Teddy Locsin, Jr. [@teddyboylocsin], “Statement,” Twitter post, June 2, 2020. For the November 10 statement, see Teodoro L. Locsin, Jr., “Statement of Foreign Affairs Secretary Teodoro L. Locsin, Jr. on VFA Extension,” Republic of the Philippines, Department of Foreign Affairs, November 10, 2020.

rent value against China it would have otherwise had if both sides were actively leveraging the EDCA.⁴¹ Political conditions in the Philippines makes it difficult to envision any immediate substantial enhancement of the MDT and easier to envision downgrades. At present, Washington and Manila are renegotiating the VFA, and the two sides are apparently optimistic that the VFA, in some form, will remain intact. There is no perceivable progress, however, on the EDCA. Duterte actually threatened to get rid of EDCA.

In spite of Duterte's unwillingness to improve the undergirding mechanisms enabling a strong MDT, the Philippine defense establishment and the Philippine population are overwhelmingly pro-United States and anti-China, which limited his options. Indeed, Duterte came around to supporting Philippine sovereignty in the West Philippine Sea in the face of rising Chinese assertiveness. He upheld the 2016 arbitration ruling in his country's favor and vocally supported the United Nations Convention for the Law of the Sea.⁴² Additionally, Duterte hoped for U.S. intervention if Philippine territorial integrity and sovereignty were in jeopardy during a crisis situation.⁴³ Duterte lambasted the United States military for doing nothing in 2012 when China annexed the disputed Scarborough Shoal. Thus, any buildup of Chinese forces, such as what happened in March 2021 at Whitsun (Julian Felipe) Reef, is likely to prompt questions about whether the United States is fully honoring its MDT commitments. Without a VFA and EDCA, however, the United States would likely be hamstrung in what it could reasonably achieve versus China in the South China Sea. The Duterte-led Philippines was fairly unlikely to assist the U.S. military apart from crisis scenarios directly affecting the Philippines.

If the Philippines were attacked by China, then Manila would certainly look to the United States for support via the MDT and would provide any level of access required to win the war. But once again, conflicts happening beyond the Philippines would go unsupported given the current political climate.

⁴¹ For a comprehensive narrative on the level of EDCA implementation in the Philippines, see Renato Cruz De Castro, "The Death of EDCA and Philippine-U.S. Security Relations," Institute for Southeast Asian Studies, May 11, 2020. For implications of the EDCA freeze on the U.S.-Philippines alliance and deterrence against China, see Gregory Poling and Conor Cronin, "The Dangers of Allowing U.S.-Philippine Defense Cooperation to Languish," *War on the Rocks*, May 17, 2018.

⁴² Derek Grossman, "The Philippines Is Sticking Right by America's Side," *The Diplomat*, December 2, 2020.

⁴³ Philip Heijmans and Andreo Calonzo, "Duterte Gets Tough on China, Leaning Back to Old Ally America," *Bloomberg*, September 22, 2020.

Singapore

Although not a formal treaty ally of the United States, Singapore is a Major Security Cooperation Partner that provides the U.S. military with “access, basing, and overflight privileges.”⁴⁴ This status, however, has not translated into overt support of U.S. military objectives, as Singapore is concerned about the appearance of aligning with the United States against China. Indeed, Singapore has attempted to balance relations between the two nations as great power competition intensifies, with the Singaporean Prime Minister Lee Hsien Loong in August 2019 stating, “We are all worried about the growing tensions between the United States and China. Their disputes have placed other countries in a dilemma. No country wants to take sides, and Singapore is no exception.”⁴⁵ Singapore has attempted to make its external security partnerships seem more balanced. For example, after renewing the original 1990 memorandum of understanding with the United States in September 2019 allowing continued U.S. military access to Singaporean air and naval bases, Singapore the following month upgraded its defense pact with China. That pact, first inked in 2008 and known as the Agreement on Defense Exchanges and Security Cooperation, is a basic agreement enabling visits, port calls, exercises, and exchanges.⁴⁶

In line with its status as a Major Security Cooperation Partner of the United States, Singapore is likely to offer the U.S. military access in support of both crisis and wartime contingencies. However, the level and timing of access may heavily depend on the optics of the situation. Singapore, for instance, will almost certainly care about whether the United States or China began the war and what the conflict is over to determine the level and type of assistance it would offer.

South Korea

South Korea is a long-standing ally of the United States in the Indo-Pacific. Its focus is predominantly on North Korea, however, which inherently limits Seoul’s participation in defense and security activities beyond the peninsula. Nonetheless, President Moon Jae-in has consistently expressed support for the U.S. Indo-Pacific strategy, suggesting that support for the U.S. military may extend to conflict with China as well. Seoul’s recent experience

⁴⁴ United States of America and the Republic of Singapore, Strategic Framework Agreement Between the United States of America and the Republic of Singapore for a Closer Cooperation Partnership in Defense and Security,” Washington, D.C., July 12, 2005; U.S. Department of State, “U.S. Security Cooperation with Singapore,” fact sheet, April 20, 2021.

⁴⁵ Prime Minister Lee Hsien Loong, “Commentary: The Impact of Growing U.S.-China Tensions on Singapore,” Channel News Asia, August 19, 2019. For a comprehensive analysis of how Singapore has responded to intensifying U.S.-China competition, see Cortez A. Cooper III and Michael S. Chase, *Regional Responses to U.S.-China Competition in the Indo-Pacific: Singapore*, RAND Corporation, RR-4412/5-AF, 2019.

⁴⁶ Prashanth Parameswaran, “What’s in the Renewed U.S.-Singapore Military Facilities Agreement,” *The Diplomat*, September 28, 2019; Prashanth Parameswaran, “Why the New China-Singapore Defense Agreement Matters,” *The Diplomat*, October 23, 2019.

with Beijing further suggests that South Korea, at a minimum, would never align with or even prefer China as a partner.⁴⁷ Following U.S. deployment of the THAAD system to South Korea in 2016, which is designed to intercept ballistic missiles from North Korea, Beijing took substantial retaliatory measures in the form of sanctions against the South Korean economy, particularly against Lotte Industries, whose land was used for the THAAD battery. Beijing argued that the radar associated with THAAD could be used to undermine Chinese deterrent capabilities.⁴⁸ China–South Korea ties are still in the process of recovering from this very damaging ordeal.

During a crisis, Seoul is likely to support the U.S. military regardless of whether South Korea itself is directly involved in the contingency. This is not only because of the perceived need to honor the decades-long security alliance with Washington but also the real and growing concerns regarding Beijing’s true intentions on the peninsula. Traditionally, China had viewed support to its ally, North Korea, as the primary objective. However, in recent years, Beijing may have come to the conclusion that undermining South Korean capabilities would also be necessary to prevent the United States from assisting South Korean forces from attacking North Korea or reuniting the peninsula.⁴⁹ Despite being South Korea’s top trading partner, China is increasingly viewed as an adversary in Seoul.⁵⁰ There is one limited exception to this rule, which entails enlisting Chinese support to convince North Korea to negotiate with South Korea. This is a card Beijing frequently plays, especially with progressive South Korean politicians (Moon is one), but given the lack of progress in recent years, it is unclear whether Chinese overtures have much credibility left. In wartime, South Korea is also likely to assist the U.S. military for the same reasons.

Thailand

Thailand is a formal treaty ally of the United States, and the two nations maintain a close security relationship. Following the successful Thai military coup in 2014, the alliance came under significant strain as Washington rolled back security assistance to Bangkok. During the Trump administration, however, the alliance steadily warmed again after the coup leader-turned-prime minister, Prayuth Chan-ocha, visited the White House in 2017. Then, in 2019 and following the Thai elections, the United States lifted sanctions on security assistance, and

⁴⁷ For a comprehensive analysis of South Korea–China relations, see Ji-Young Lee, *The Geopolitics of South Korea–China Relations: Implications for U.S. Policy in the Indo-Pacific*, RAND Corporation, PE-A524-1, November 2020.

⁴⁸ For more on the THAAD controversy and its aftermath as it played out for China–South Korea relations, see Ethan Meick and Nargiza Salidjanova, *China’s Response to U.S.–South Korean Missile Defense System Deployment and Its Implications*, U.S.–China Economic and Security Review Commission, July 26, 2017.

⁴⁹ Jina Kim, *China and Regional Security Dynamics on the Korean Peninsula*, Carnegie Endowment for International Peace, March 18, 2020.

⁵⁰ Choe Sang-hun, “South Koreans Now Dislike China More Than They Dislike Japan,” *New York Times*, August 20, 2021.

today security ties are once again strong.⁵¹ However, even throughout the tensest period of U.S.-Thailand relations, the two countries continued to host the annual multinational Cobra Gold exercises. In late 2019, Thailand and the United States signed the Joint Vision Statement 2020 for the U.S.-Thai Defense Alliance, committing to continue to cooperate to meet regional security challenges, maintain some degree of interoperability, continue with training and capacity building, promote a “rules-based international order,” and promote the centrality of the Association of Southeast Asian Nations in regional security.⁵² Not long after, in July 2020, U.S. Army Chief of Staff General James McConville traveled to Thailand to sign the Strategic Vision Statement, the text of which was not made public but covered military modernization, interoperability, joint training programs and exercises, and doctrine.⁵³

Prime Minister Chan-ocha has also turned toward Beijing for assistance. China is Thailand’s biggest trade partner, and Thailand has been eager since the 2000s to increase and benefit from Sino-Thai trade.⁵⁴ In a 2018 interview, Chan-ocha said that China was his country’s “number one partner” and that the United States and other countries were relegated to second or third place. While open to relations with the United States, he described Washington as distracted and not very attentive to the Association of Southeast Asian Nations.⁵⁵ Some backers of Thailand’s military government consider the United States to be a greater threat than China and believe that American organizations are clandestinely aiding anti-government prodemocracy protesters.⁵⁶ In their relations, Chinese and Thai officials emphasized economic cooperation, infrastructure development (in particular China’s Belt and Road Initiative and Thailand’s “Eastern Economic Corridor”), and cooperation in handling the COVID-19 pandemic.⁵⁷ China’s Sinovac COVID-19 vaccine has been key in Bangkok’s vaccination efforts, along with other vaccines.⁵⁸ Regardless of these cooperative activities, there

⁵¹ Alexis Arief, Marian L. Lawson, and Susan G. Chesser, “Coups-Related Restrictions in U.S. Foreign Aid Appropriations,” Congressional Research Service, updated February 22, 2022; Wongcha-um Panu, “U.S. Army Chief of Staff Signs ‘Strategic Vision’ Pact with Thailand,” Reuters, July 10, 2020; Nirmal Ghosh, “White House Visit a Boost for Prayut—and U.S.-Thai Ties,” *Straits Times*, October 4, 2017.

⁵² DoD and Kingdom of Thailand Ministry of Defense, Joint Vision Statement 2020 for the U.S.-Thai Defense Alliance, Bangkok, November 27, 2019.

⁵³ Panu, “U.S. Army Chief of Staff Signs ‘Strategic Vision’ Pact with Thailand.”

⁵⁴ Pongphisoot Busarat, “‘Bamboo Swirling in the Wind’: Thailand’s Foreign Policy Imbalance Between China and the United States,” *Contemporary Southeast Asia*, Vol. 38, No. 2, 2016, p. 239.

⁵⁵ Charlie Campbell, “Exclusive: Thailand PM Prayuth Chan-ocha on Turning to China over the U.S.,” *Time*, June 21, 2018.

⁵⁶ Sek Sophal, “The U.S.-Thailand Security Alliance: Growing Strategic Mistrust,” *Australian Outlook* (Australian Institute of International Affairs), October 2, 2020; John Blaxland and Greg Raymond, *Tipping the Balance in Southeast Asia? Thailand, the United States, and China*, Strategic and Defense Studies Center, Australian National University, College of Asia and the Pacific, November 2017, pp. 7, 9–10.

⁵⁷ Embassy of the People’s Republic of China in the United States of America, “Thai Prime Minister Prayuth Chon-ocha Meets with Wang Yi,” October 15, 2020.

⁵⁸ Wongcha-um Panu, “Thailand Starts COVID-19 Vaccination Campaign,” Reuters, February 27, 2021.

is widespread unease in the Thai military establishment with China's growing power and a belief that the security guarantee from the United States and a continued U.S. presence in the region provides an important counterbalance to China.⁵⁹

In a crisis scenario, Thailand would likely carefully weigh the potential benefits and costs of supporting the U.S. military. U.S. military access to Thailand, though probable across most conceivable scenarios, is far from certain. A good example in peacetime is access to U-Tapao Royal Thai Navy Airfield. To be sure, the United States has good access to U-Tapao, having used it as a logistics hub for the wars in Afghanistan and Iraq, as well as for humanitarian assistance and disaster recovery operations to address the Boxing Day Tsunami that hit Indonesia in 2004, as well as the Nepal earthquake in 2015. However, Bangkok rejected U.S. access to U-Tapao between 2017 and 2018 to assist the persecuted Rohingya minority in neighboring Myanmar, strongly suggesting that Thailand would consider the optics of the situation before committing.⁶⁰ In a crisis, Thailand during wartime would also probably carefully weigh the potential benefits and costs of supporting the U.S. military, especially if the U.S. conflict is against China. Because of the long-standing security alliance, the U.S. military is likely to gain access to Thailand for most conceivable scenarios. **Vietnam**

Vietnam's security policy has been consistently premised on balancing relationships with the United States and China as great power competition continues to ramp up.⁶¹ Hanoi strongly values maintaining cordial and productive ties to Beijing, even though they hold serious disagreements over sovereignty in the South China Sea. The key limiting factor in Vietnam's deepening security ties to the United States is Hanoi's guiding principle on security cooperation, known as the "four nos and one depend."⁶² Previously and commonly known as the "three nos" defense policy, Hanoi rejects military alliances, siding with one country against another, and foreign military bases on its territory. When the three nos became the four nos and one depend, after the publication of Vietnam's latest defense white paper in November 2019, Hanoi further rejected preemptively using force or threatening to use force in international relations. However, Vietnam also left the door open "depending on circumstances and specific conditions, [to] considering developing necessary, appropriate defense and military relations with other countries."⁶³ This is likely an implicit signal to China that if its assertive-

⁵⁹ Blaxland and Raymond, *Tipping the Balance in Southeast Asia?* pp. 6, 15–16.

⁶⁰ Zachary Abuza, "America Should Be Realistic About Its Alliance with Thailand," *War on the Rocks*, January 2, 2020.

⁶¹ For more on Vietnam's reaction to intensifying U.S.-China competition throughout the Indo-Pacific and within Vietnam, see Derek Grossman, *Regional Responses to U.S.-China Competition in the Indo-Pacific: Vietnam*, RAND Corporation, RR-4412/6-AF, 2020.

⁶² Nguyen The Phuong, *Vietnam's 2019 Defense White Paper: Preparing for a Fragile Future*, Center for Strategic and International Studies, Asia Maritime Transparency Initiative, December 17, 2019.

⁶³ Vietnamese Ministry of National Defence, *2019 Viet Nam National Defence*, November 25, 2019.

ness continues to rise in the South China Sea, then Vietnam reserves the right to strengthen security ties with the United States and other major powers.⁶⁴

Given these built-in constraints on security cooperation with the United States and other nations, Vietnam is unlikely to support U.S. Army objectives and operations during a crisis period—unless perhaps Hanoi’s own territorial integrity and sovereignty are at stake. For instance, if China were to invade a disputed feature in the Spratly Islands controlled by Vietnam, then that *might* be the trigger for the “one depend.” Alternatively, if the PLA amassed at the land border, threatening an invasion of Vietnam, then the one depend could be activated. Unfortunately, there is no guarantee, as Hanoi has an exceptionally high threshold for tension and pain with Beijing born from millennia of carefully engaging and hedging against its more powerful northern neighbor. Any crisis situation outside Vietnamese territory or claimed territory is virtually certain to result in Hanoi remaining on the sideline and denying assistance to the U.S. military.

However, a wartime scenario involving Vietnam itself in the South China Sea or at the land border is far more likely to trigger the one depend. In this case, the United States should have greater access to Vietnam. But there still may be caveats, such as no establishment of foreign bases on Vietnamese territory.

Uncertainties

The assumptions outlined here are fundamentally uncertain for one simple reason: National choices on allowing U.S. access during a crisis or war, or participating in a fight, will be substantially if not dominantly influenced by the specific context in which the fight emerges. That context will include such factors as the proximate causes of any conflict (e.g., whether a Taiwan contingency emerges from pure Chinese unprovoked belligerence or a declaration of independence by Taipei). It will include the personality and worldview of specific leaders in office at the time, as well as domestic politics in the partner nation. It will be influenced by developments between now and the moment of crisis or war: Does China ease off its current hostile track, for example, and spend several years building stronger trust with regional countries?

These uncertainties, however, do not prevent us from using foundational national interests, formal legal constraints (such as constitutional prohibitions and national laws), existing access and status of forces agreements, public commitments, and other forms of evidence to make educated assessments of the likely stance of these countries in the event of a contingency. The idea that final decisions are uncertain can encourage wishful thinking, by allow-

⁶⁴ For further analysis on the likely implications of Vietnam’s latest defense white paper, see Derek Grossman and Christopher Sharman, “How to Read Vietnam’s Latest Defense White Paper: A Message to Great Powers,” *War on the Rocks*, December 31, 2019.

ing planners to hope and believe that, at the critical moment, the United States will be able to persuade or coerce the nation into supporting U.S. efforts.

Yet this has not always been the case. There is a long list of allies and partners that have refused U.S. access rights or refused to participate in strike operations or major contingencies. The list includes the 1986 U.S. strikes on Libya, in which France and Spain refused U.S. overflight rights, forcing U.S. aircraft from Britain to fly an additional 6,000 miles; Italy's 1995 refusal to allow U.S. aircraft based there to participate in strikes on Serbian forces; Greece's similar refusal to allow U.S. aircraft to fly from its bases during Operation Allied Force; and Turkey's refusal to participate in, or allow U.S. forces to operate from Turkey to support, Operation Iraqi Freedom in 2003. And in none of these cases did the U.S. ally face the sort of economic and geopolitical risks that would apply to Indo-Pacific nations supporting any operations against China.

Guidance for Concept Development

On the basis of this analysis, we proposed the host-nation political access assumptions in Table 5.1, and reprinted it as Table A.1, to guide concept planners developing future Army concepts for the Indo-Pacific. These are not explicit forecasts for what these partners will allow. Rather, they constitute reasonable assumptions to make, given what we currently know of partner interests, views, and intentions. As noted, the actual circumstances of a crisis or war will play a significant role in determining partner decisions.

TABLE A.1

Scenario Assumptions About Constraints on Ally and Partner Roles in Peacetime, Crisis, and Conflict

Partner	Basis for Willingness	Peacetime Access, Posture, and Participation Assumptions	Operational Problems 1–3: Access and Participation Assumptions
Australia	<ul style="list-style-type: none"> • Formal U.S. ally • Extensive exercises, joint training, other forms of engagement • Long-standing ties • Australia has supported every major U.S. war 	<ul style="list-style-type: none"> • All overflight, transit rights • Access to current facilities in Australia • Potential for slightly enhanced posture (modest increase to facilities, forces) • Recurring exercises and rotational deployments • Steady-state deployment of noncombat force elements and current combat elements (U.S. Marine Corps) • Rotational deployments of additional combat force elements up to brigade • No permanent deployment of land-based, long-range strike assets 	<ul style="list-style-type: none"> • Full access rights would be provided during crisis • In maritime crisis, Australia could provide assets as part of multilateral response across multiple mission areas • In distant crisis involving maritime and land components, Australia would contribute modest direct support forces (e.g., squadron or battalion size) with strict rules of engagement • In wartime, a direct attack on Australia would trigger U.S. alliance and be fully engaged • In wartime scenario involving distant Chinese aggression, Australia would contribute indirect support (access rights, logistical and ISR support) but not send combat units
India	<ul style="list-style-type: none"> • Major Defense Partner status since 2016 • Significant upgrades in recent years—i.e., the Communications, Compatibility and Security Agreement (COMCASA) and Logistics Exchange and Memorandum Agreement • Challenging official policy of nonalignment 	<ul style="list-style-type: none"> • Increasingly comfortable with joint exercises • Access for refueling under Logistics Exchange and Memorandum Agreement • U.S. B-1B bomber made first stop at Indian base • No stationing of troops 	<ul style="list-style-type: none"> • In a crisis scenario, support would likely be in line with preexisting agreements but perhaps not surpass them • An attack on India would not necessarily result in Indian outreach to the United States • Wartime support may be very similar to crisis-level support—i.e., limited access and other forms of covert or quiet support to U.S. military
Indonesia	<ul style="list-style-type: none"> • Nonaligned status • No access agreements in place • Limited interests beyond immediate Indonesian shores 	<ul style="list-style-type: none"> • No stationing of troops • Limited defense and security exchanges with the United States • Prioritized balancing of ties with China 	<ul style="list-style-type: none"> • Crisis scenario involving Indonesia would not necessarily result in U.S. outreach • Wartime effort against Indonesia has higher likelihood of U.S. engagement • Neither crisis nor wartime that is not focused on Indonesia is likely to be supported by Jakarta

Table A.1—Continued

Partner	Basis for Willingness	Peacetime Access, Posture, and Participation Assumptions	Operational Problems 1–3: Access and Participation Assumptions
Japan	<ul style="list-style-type: none"> • Key ally of the United States in the Indo-Pacific • Domestic justification needed for U.S. power projection from Japanese shores as part of Tokyo's self-defense 	<ul style="list-style-type: none"> • Routine involvement in joint exercises • U.S. troops based throughout Japan, including on Okinawa • Recent discussion on Taiwan Strait scenario 	<ul style="list-style-type: none"> • Japan is likely to support the United States in any crisis scenario, but within the bounds of its constitution based on self-defense; operations outside strict self-defense would have to be justified • Japan might be more cautious during wartime to support for fear of retribution and constitutional restraints, but Tokyo is likely to support at a high level regardless, given the value Tokyo places on the alliance
Malaysia	<ul style="list-style-type: none"> • Nonalignment policy, though increasingly concerned about the South China Sea • A member of the Five Power Defence Arrangements (FPDA), which could be leveraged for further access 	<ul style="list-style-type: none"> • Through FPDA, Australian troops forward deployed to Butterworth Air Base; occasional U.S. access as well • Limited bilateral joint exercises and exchanges 	<ul style="list-style-type: none"> • Malaysia is unlikely to provide much access to the United States, if any, during crisis scenario, even if involving Malaysia itself • The situation is probably the same for a wartime scenario • FPDA may nevertheless provide some access through allies and partners
Micronesia and the broader Oceania	<ul style="list-style-type: none"> • Large area, but focus on Freely Associated States (FAS) is prudent • FAS Compacts of Free Association (COFAs) with United States, granting the latter near-exclusive access to area the size of CONUS; near U.S. troops stationed on Guam • COFA expiration risk; could spell problems if China exploits 	<ul style="list-style-type: none"> • COFA-enabled peacetime operations and forward deployment of troops and equipment, except for weapons of mass destruction. • Outside of COFAs, U.S.-maintained multidecade land lease on Marshall Islands' Kwajalein Atoll for the Ronald Reagan missile defense test site 	<ul style="list-style-type: none"> • FAS are likely to support United States no matter if crisis or wartime scenario • However, United States cannot preemptively declare war on their behalf

Table A.1—Continued

Partner	Basis for Willingness	Peacetime Access, Posture, and Participation Assumptions	Operational Problems 1–3: Access and Participation Assumptions
Philippines	<ul style="list-style-type: none"> • Key ally against China; turned unreliable because of anti-America and pro-China President Rodrigo Duterte • Duterte's term ending in 2022, but front-runner is his daughter 	<ul style="list-style-type: none"> • Jeopardized peacetime access by Visiting Forces Agreement (VFA) and Enhanced Defense Cooperation Agreement (EDCA) renegotiation challenges • Nevertheless, extremely pro-U.S. and anti-China Philippine defense establishment and population • United States the preferred defense partner; robust exercises and security exchanges in spite of Duterte 	<ul style="list-style-type: none"> • If Philippines is facing crisis or attacked, it will look to the United States to trigger the Mutual Defense Treaty (MDT) • Philippines is likely to provide U.S. access in a crisis or wartime, threatening its national sovereignty and territorial integrity • Duterte-led government is unlikely to support the United States in a crisis beyond Philippine borders
Singapore	<ul style="list-style-type: none"> • Major security and defense partner • Strongly prefers low-key assistance to U.S. military • Highly capable and competent partner 	<ul style="list-style-type: none"> • Peacetime access to Changi Naval Base for logistics and maintenance • Chinese submarine facility near Changi, but the United States remains preferred partner 	<ul style="list-style-type: none"> • During crisis scenario, Singapore is likely to support the United States, albeit quietly and depending on the optics • Wartime support is also likely but, again, quietly and depending on the optics
South Korea	<ul style="list-style-type: none"> • Key ally in northeast Asia, though primarily focused on North Korea • Has consistently expressed support for U.S. Indo-Pacific strategy, suggesting that China is an adversary 	<ul style="list-style-type: none"> • Robust peacetime access and includes basing for forward-deployed troops and routine defense and security exchanges 	<ul style="list-style-type: none"> • South Korea is likely to support the United States in a crisis scenario regardless of whether it directly pertains to the security of South Korea or North Korea • Wartime support is also likely, given the strength of the alliance and state of South Korea–China relationship

Table A.1—Continued

Partner	Basis for Willingness	Peacetime Access, Posture, and Participation Assumptions	Operational Problems 1–3: Access and Participation Assumptions
Thailand	<ul style="list-style-type: none"> • Key ally in Indochina, but relations under significant strain after successful military coup in 2014 • During Donald Trump administration, warming trend • Regardless, still believes that the United States is partner of choice • Does not see China as much of a threat and has instead enhanced defense ties with Beijing 	<ul style="list-style-type: none"> • Fairly good peacetime access; for example, granted access to U-Tapao air base in most cases • Cobra Gold multinational exercise, unaffected by U.S. sanctions against new military regime starting in 2014 	<ul style="list-style-type: none"> • Crisis access will largely depend on the optics of the situation and whether the crisis directly affects Thailand • Wartime access will also largely depend on the optics of the situation and whether the conflict directly affects Thailand
Vietnam	<ul style="list-style-type: none"> • Burgeoning U.S.-Vietnam security partnership, mostly the result of growing Chinese assertiveness in the South China Sea • Hanoi's "four nos and one depend" defense policy as constraining factor for security cooperation, but "one depend" opens the door to bending or breaking the "four nos" • Paramount importance of maintaining delicate balance with China while strengthening security ties with the United States 	<ul style="list-style-type: none"> • Increasingly robust defense and security exchanges • However, no peacetime access to Vietnam beyond annual port calls to Cam Ranh Bay International Port and Danang 	<ul style="list-style-type: none"> • In a crisis scenario, if Vietnam is directly targeted, it is unlikely to provide access because of its history of handling matters independently and competently. • Also, Vietnam would not want to give the United States entrée to Vietnamese soil once again, with the war having ended not even 50 years ago • If crisis scenario is beyond Vietnamese shores, Hanoi is likely to avoid unnecessarily antagonizing Beijing by getting involved • In a wartime scenario involving Vietnam, there is a higher chance that Hanoi would decide to grant U.S. military access to its bases, etc. • Any wartime scenario beyond Vietnamese shores is very unlikely to be supported because of the likelihood of Chinese retribution

Fires

The development and deployment of LRPF are the Army's top modernization priorities.¹ In the Indo-Pacific, the Army envisions fires to allow Army forces to “respond to what DoD calls the enemy anti-access, area denial (A2/AD) environment (layered and integrated long-range precision-strike systems, littoral anti-ship capabilities, air defenses, and long-range artillery and rocket systems), which can theoretically keep U.S. forces at bay and deny freedom of movement.”² Any look at constraints on the employment of land forces in the region demands close examination of emerging Army fire capabilities. In this appendix, we first examine analytical considerations, such as system types, target locations, and firing locations. We then examine uncertainties and conclude by distilling those analyses into tangible guidance for concept development.

Analytical Considerations

Land forces might use fires to achieve a variety of effects as part of an employment concept. According to Army doctrine, fires may be used to isolate, delay, degrade, or defeat an enemy force; deny terrain; suppress, neutralize, or destroy specific targets; or interdict—among other things.³ No matter the effects desired, though, concept developers must understand three fundamental factors:

- fires system attributes, such as range and lethality
- target locations to which effects might be applied
- firing locations that can support the employment of selected fires systems.

We discuss each consideration in the sections below. Additionally, we examine the challenges of resupplying one type of system (PrSM) in Appendix D.

¹ Andrew Feickert, *U.S. Army Long-Range Precision Fires: Background and Issues for Congress*, Congressional Research Service, March 16, 2021, p. 1.

² Feickert, *U.S. Army Long-Range Precision Fires*.

³ Field Manual 3-09, *Fire Support and Field Artillery Operations*, Headquarters, Department of the Army, April 2020, pp. 3-25–3-26.

Attributes of Army Fires Systems

Rather than examine current systems that consist largely of cannon artillery, we examined the unclassified attributes of fires capabilities expected to be fielded by the Army beginning in 2023, as shown in Table B.1.

Despite considerable progress in developing these fires capabilities, many details are still not fully known. For instance, these systems only represent the end of the kill chain; targeting and C2 technologies and practices are being developed by the Army and other services in parallel. Furthermore, many attributes of these LRPF systems (e.g., maximum effective ranges, lethality, and accuracy) have yet to be revealed in an unclassified setting or verified in actual operation. Finally, the tactics, techniques, and procedures for these systems have yet to be developed, as they are not expected to be fielded until 2023. These uncertainties drive us to be circumspect when distilling these analytical considerations into guidance for concept development.

Target Locations

We used six representative locations to approximate the target locations that an LRPF system might be expected to reach in the three operational problems. Figures B.1 to B.6 depict reverse-range rings that indicate what general missile-range capabilities are required to reach the center mass of these targets:

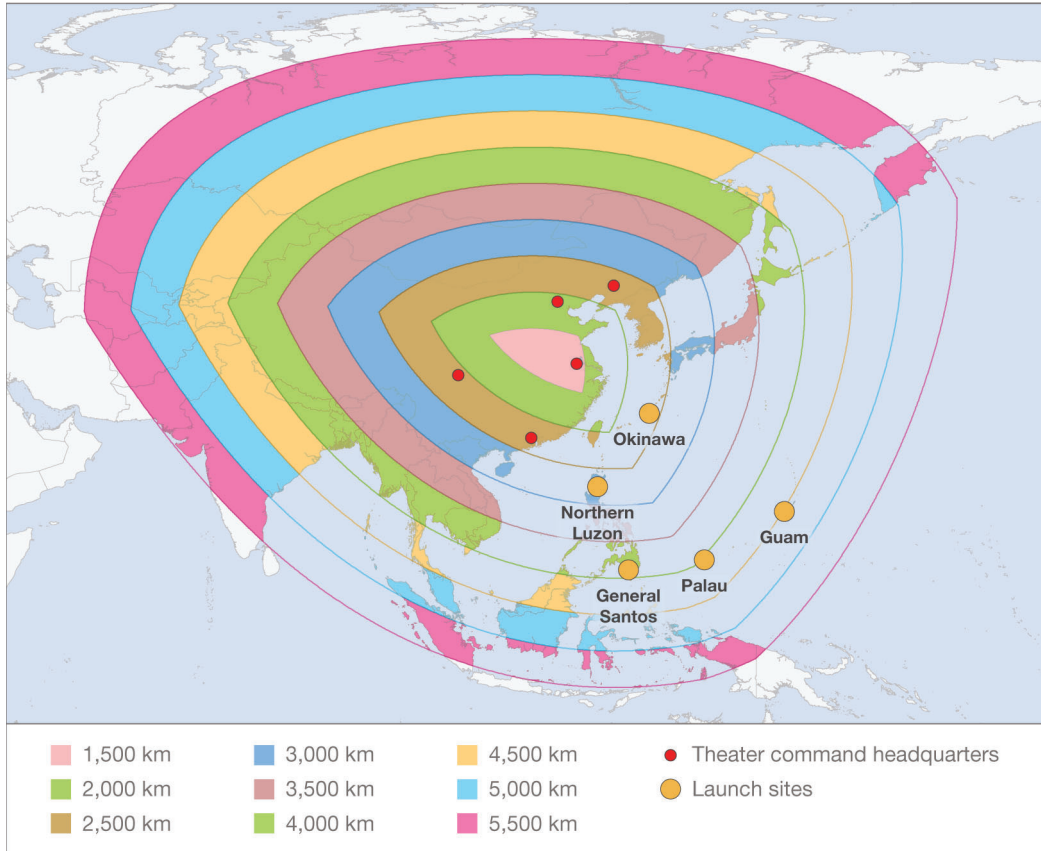
- Figure B.1: Mainland China (operational problems 1, 2, and 3)
- Figure B.2: Taiwan Strait (operational problem 2)
- Figure B.3: Spratly Islands (operational problem 1)
- Figure B.4: Senkaku Islands (operational problem 1)
- Figure B.5: Paracel Islands (operational problem 1)
- Figure B.6: Galwan Valley (operational problem 3).

TABLE B.1
Select Army Fires System Attributes

System	Characteristics
LRHW	Surface-to-surface boost-glide missile
MST Block 5A	Sea-to-sea missile (modified for ground use)
SM-6 Block 1B	Ship-launched antiair and antisurface interceptor missile (modified for ground use)
PrSM Spiral 3	Surface-to-surface missile

SOURCE: Kelley M. Saylor, *Hypersonic Weapons: Background and Issues for Congress*, Congressional Research Service, December 1, 2020.

FIGURE B.1

Mainland China Theater Command Headquarters Target Set**Potential Firing Locations**

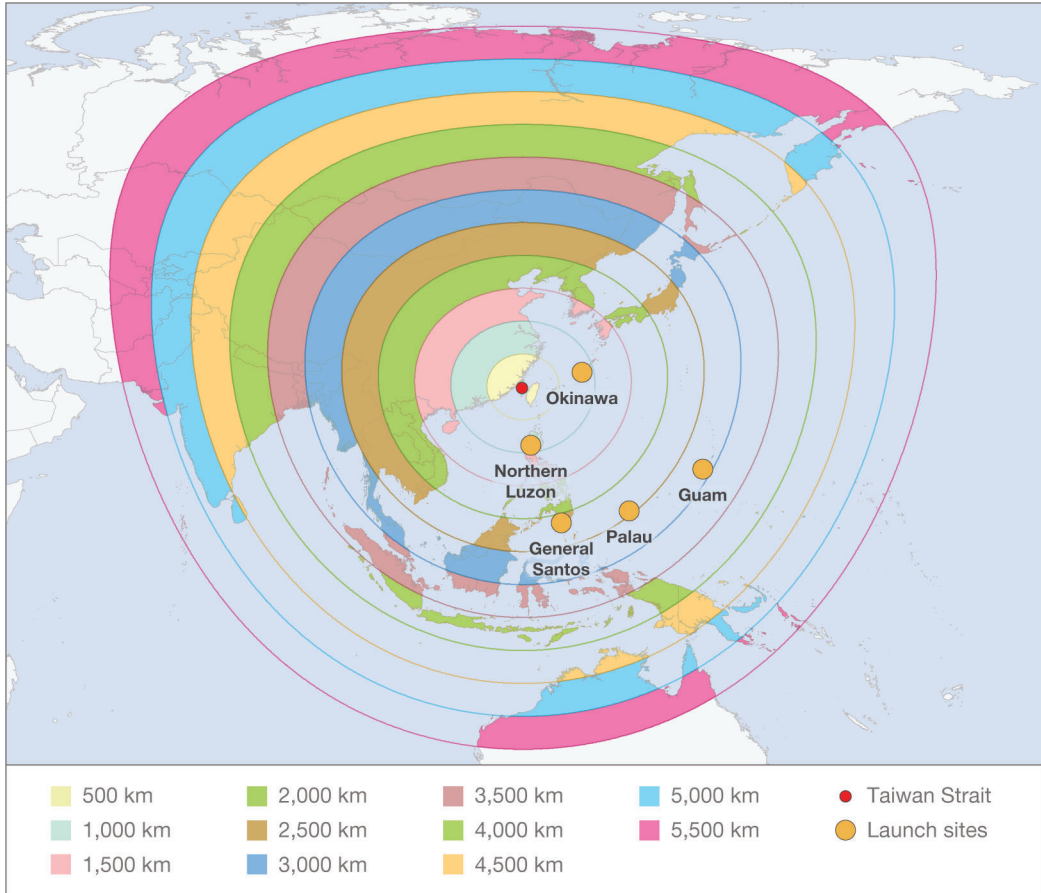
Next, we examined the amount of land mass suitable for long-range fires operations. We focused on three locations that are of interest to the Army: the Philippines, Vietnam, and Taiwan.⁴ No political access factors were considered here; we focused purely on the feasibility of access if access is granted.

Feasibility in this case depends on the eligibility of terrain. Four factors were considered for eligibility, using previous RAND analysis:⁵

⁴ These locations were selected after reviewing Army G-3/5/7 documents, in interviews with USARPAC G-35 personnel, and conversations with RAND experts.

⁵ This methodology was adapted from a 2020 RAND project undertaken by James Bonomo, David R. Frelinger, Alex Hou, Michael Nixon, and Stephen M. Worman.

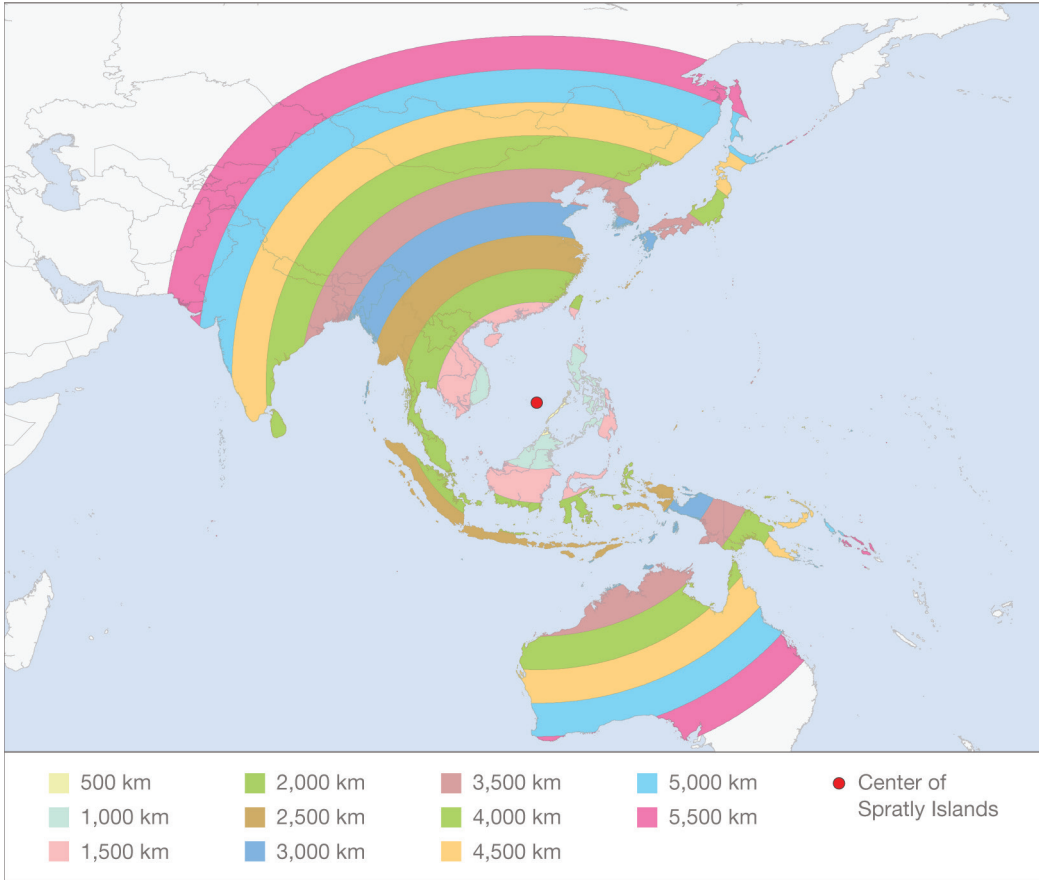
FIGURE B.2
Taiwan Strait Target Set



- slope: less than 30 percent terrain slope
- distance from supply points: <300 miles (operational range of a Heavy Expanded Mobility Tactical Truck [HEMTT])
- accessibility: <2km from a road
- survivability: >50 percent foliage cover

When analyzing geographic information system data, we observed that these factors mean that less than 20 percent of all land in three exemplar countries (the Philippines, Vietnam, and Taiwan) were eligible to support prolong operations of LRPF systems. This substantially limits system utility.

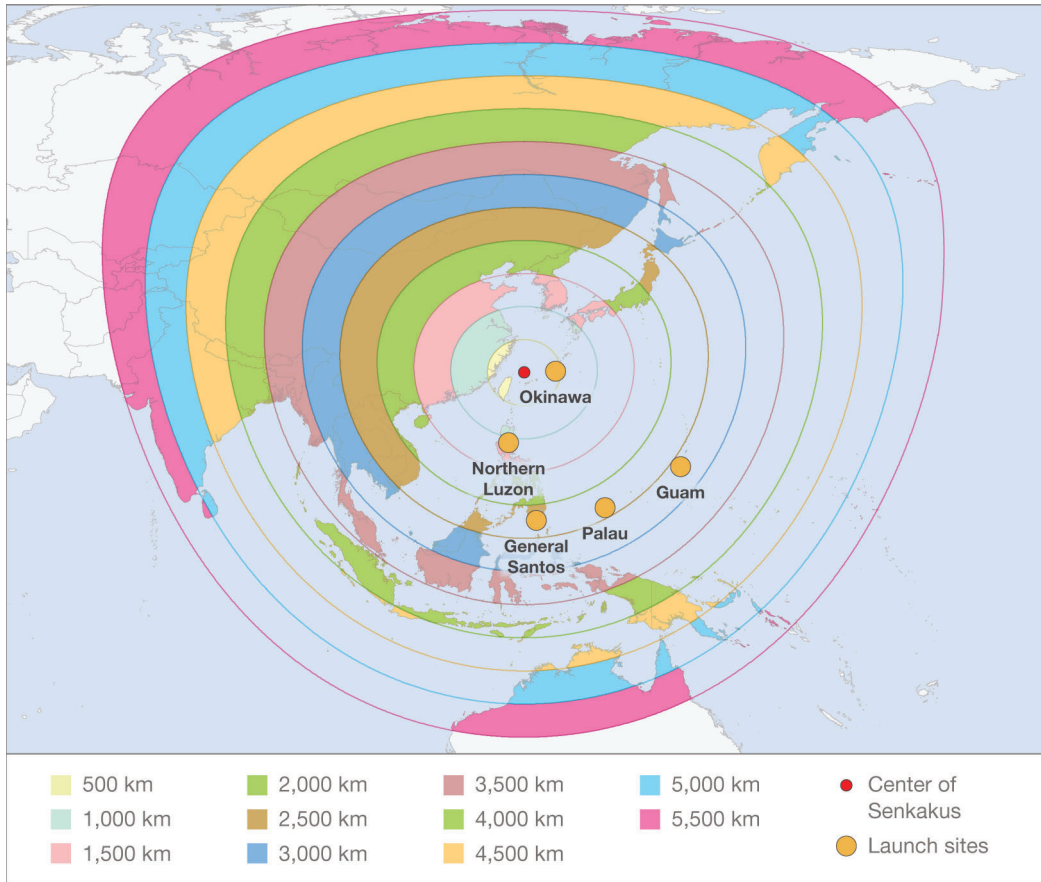
FIGURE B.3
Spratly Islands Target Set



Guidance for Concept Development

The range, capability, and terrain considerations examined here led us to a number of constraints that should be imposed on any Army employment concept. Chief among these is that long-range fires assets should be employed within the ranges and against target sets specified in Table B.2. Note that the target areas noted in Figures B.2 to B.6 are general locations, not specific targets. Specific weapon routing to reach targets will depend on factors too specific to be accounted for in this analysis. Therefore, these minimum range estimates are conservative.

FIGURE B.4
Senkaku Islands Target Set

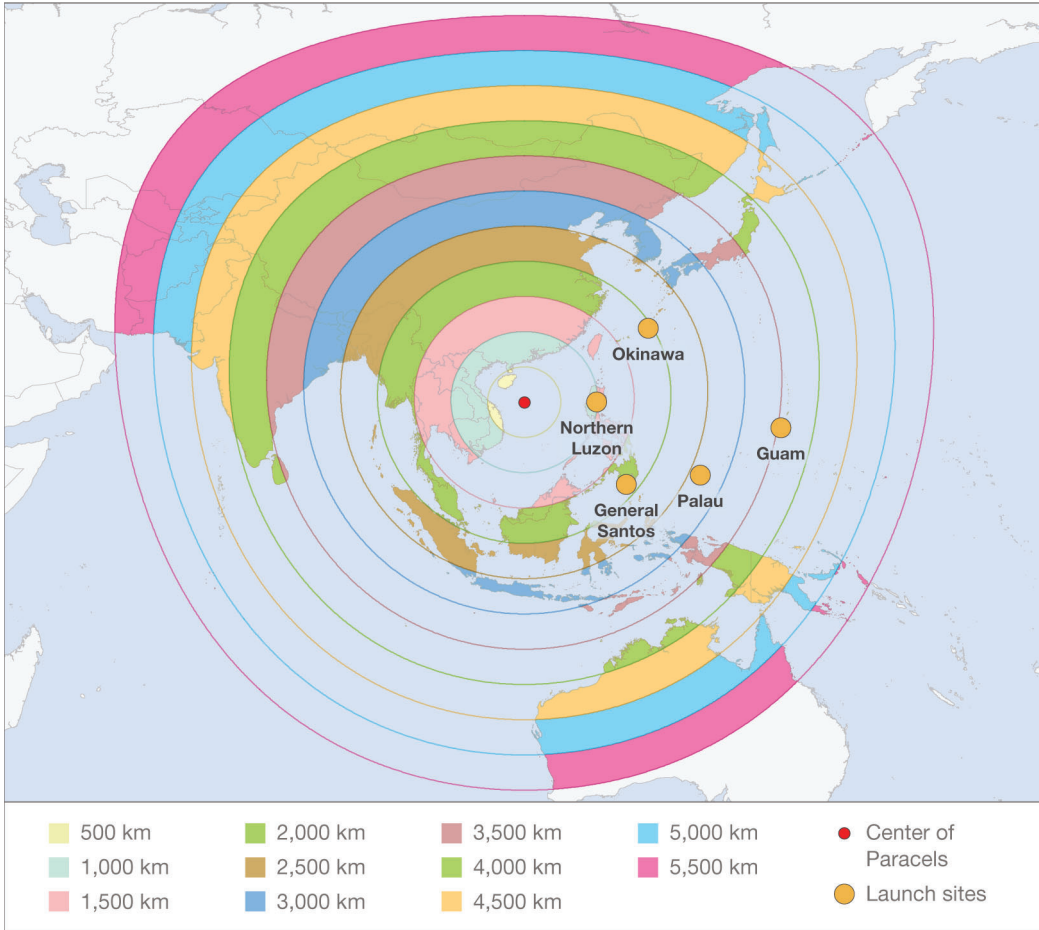


Although these range requirements are purposefully conservative, the range of LRHW and MST systems will likely offer greater utility than the PrSM Spiral 3 and the SM-6. Other firing positions may yield different results.

Finally, since tactics, techniques, and procedures have yet to be developed for these systems, we used our judgment to develop conservative ones for concept development:

- LRHW assets can be deployed down to the battery level; no split battery operations are possible.
- Although not part of strategic fires battalion organization or other AimPoint assets, concept developers can employ two pairs of SM-6 and MST launchers with ten missiles per launcher in their concepts, if desired.

FIGURE B.5
Paracel Islands Target Set



- All long-range fires assets will be limited to three days of supply before needing to be taken out of action for further resupply.
- If systems are placed in ineligible terrain, concept developers must consider those systems out of action once they fire their initial salvos due to resupply and survivability concerns.

FIGURE B.6
Galwan Valley Target Set

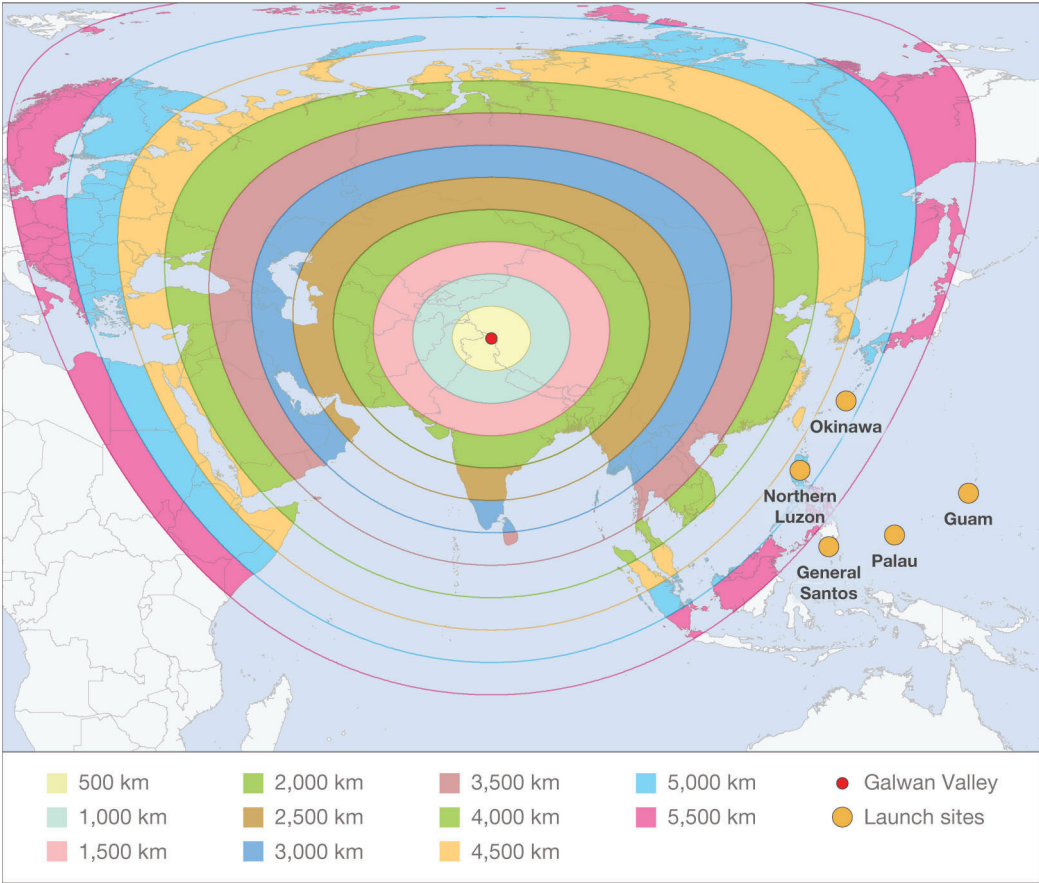


TABLE B.2
Minimum Weapon Range by Target and Launch Locations

Target	Range from Firing Position (km)		
	Taiwan	Vietnam	Philippines
China	2,000	3,000	3,000
Taiwan	0	2,000	1,000
Spratly Islands	1,500	1,000	1,000
Senkaku Islands	500	2,000	1,000
Paracel Islands	1,500	1,000	1,000
Galwan Valley	4,500	3,500	5,000

Lift and Force Flow

Any employment concept in the Indo-Pacific will need to consider the possibility of projecting power—specifically, physically moving U.S. forces and equipment—from CONUS and Hawaii into the theater. In this appendix, we examine such analytical considerations as available assets and uncertainties and risks to force flow, and we conclude with a tangible set of constraints stemming from these analyses.

Analytical Considerations

Since considerations vary by mode, we discuss air mobility, sealift, and surface lift options separately. We also summarize those considerations into a sample force flow using a notional multi-BCT force to illustrate timelines in a tangible way.

Air Mobility

Air mobility includes airlift and air refueling capabilities that provide intertheater air mobility that serves CONUS to-theater and theater-to-theater air mobility needs of the geographic combatant commands. Air mobility assets assigned to U.S. Transportation Command execute the majority of intertheater air mobility missions. Intratheater air mobility missions, defined by area of responsibility boundaries, are conducted by air mobility forces assigned or attached to the joint force commander.

Sealift

This includes resources managed by U.S. Military Sealift Command (MSC), categorized into three groups:¹

- **Government owned:** MSC maintains a fleet in full operational status, as well as one in a reduced operating status. MSC is responsible for operating assigned organic vessels and for awarding and implementing contracts with commercial charter operators to meet DoD lift requirements. Today, the fleet is composed of a combination roll-on/

¹ Joint Publication 4-01, *The Defense Transportation System*, Joint Chiefs of Staff, July 2017, pp. iii–5.

roll-off (RO/RO) vessels: large, medium-speed RO/RO surge vessels and vessels available for common-user lift requirements once their wartime stocks are downloaded and the vessels are released to the common-user fleet by the combatant commander. MSC has 14 RO/RO-type ships at six sites on the U.S. West Coast that can be activated on five days' notice.²

- **U.S. flagged commercial ships:** Ships operating under a U.S. flag are routinely tasked by U.S. Surface Deployment and Distribution Command (SDDC) to meet shipping demands using scheduled liner service. When demand exceeds the capacity of the government-owned fleet, DoD may activate prenegotiated agreements with U.S. flag vessels through the Voluntary Intermodal Sealift Agreement program or the Voluntary Tanker Agreement program.
- **Foreign-flag commercial ships:** Other ships can be acquired in the event the first two categories are unavailable through four methods: liner service, voluntary charter, allied shipping agreements, and requisitioning of effective U.S.-controlled shipping. Liner service is used when the U.S. flag liner service is not available or the rates are considered excessive. Voluntary charter typically occurs during peacetime; MSC charters foreign-flag ships whenever U.S.-flag ships are unavailable. This ability allows MSC to enter the foreign charter market and quickly expand its fleet whenever the need arises. Allied shipping agreements support the arranging for vessels received through allied nations. Effective U.S.-controlled ships are ships owned by U.S. citizens or companies that are registered in countries that have no prohibition.

Surface Lift

Land transport assets are maintained by SDDC through a series of transportation agreements and management of commercial carrier cost information necessary to move shipments within the United States via surface transportation.³ This includes approving commercial carriers to conduct business with DoD, evaluating carrier performance, and maintaining carrier tender information. Additionally, note that

- SDDC owns and manages the Defense Freight Railway Interchange Fleet, which is composed of all railcars purchased by any branch of the armed forces for loaded movement by commercial railroads throughout North America. Additionally, SDDC owns and manages DoD railcars, coordinates military use of privately owned railcars (pooling company cars and chain tie-down cars), and manages railcar-in-transit visibility.
- Outside CONUS, common-user land transportation (CULT) is another key part in surface lift capabilities that involves assigned transportation responsibility management

² Interview with former U.S. Army Special Operations Command G-4 subject-matter expert.

³ Joint Publication 4-01, *The Defense Transportation System*, pp. iii–8.

for CULT as a function of the geographic combatant command's directive authority for logistics and outlined in theater-specific operation plans and supporting plans.

Sample Force Flow

Because of these resources, it can take anywhere from 23 to 51 days to move a multibrigade force from CONUS garrisons to theater points of debarkation. Although there are a substantial number of variables that will affect this timeline, a general estimate that disregards inefficiencies and Chinese interference would consist of the following:

- **Leaving garrison (three to ten days):** Railheads at most CONUS Army bases can load 200–250 railcars per day under surge conditions. An ABCT's worth of equipment could theoretically be outloaded in as little as three days. However, previous experience has shown that loading at a peacetime rate will take ten days.⁴
- **Transit from garrison to port of embarkation (two to three days):** Once a unit clears garrison, the transit to a port of embarkation is predictable.
- **Embarkation (three to 17 days):** According to SDDC Transportation Engineering Agency port studies, it would take between 4.6 and 7.3 days for a multibrigade force (i.e., two IBCTs, a Stryker BCT, and supporting forces) to be loaded if all West Coast ports were in operation; if only one port (e.g., the Port of Tacoma) were available, it would take 17 to 21 days.
- **Transit to theater (15 to 21 days):** The most available portions of the MSC fleet (14 RO/RO ships homeported at six CONUS West Coast sites) can collectively embark up to 4.8 ABCTs (or 4.4 sustainment brigades) at once. This force could sail from the CONUS West Coast to Subic Bay in 15 days, or 21 days to Vietnam.

Uncertainties

The main source of uncertainty is the degree of risk posed by enemy action in different phases of the conflict. We articulate these as three types: direct threats to forces in transit, direct threats to transit nodes, and indirect threats to impose friction on U.S. power projection efforts. Of note, we did not consider kinetic adversary strikes against the U.S. homeland (CONUS). For example, China is developing some long-range power projection platforms, such as submarines and surface ships, the H-20 strategic bomber (somewhat akin to the U.S. B-2), and a hypersonic intercontinental-range missile—and could in theory attempt to insert SOF. However, public information on these future capabilities is limited and thus outside the scope of our analysis. We do consider nonkinetic (cyber) attacks against CONUS force flow targets below.

⁴ The supporting analysis is from unpublished RAND research by Jonathan P. Wong, Cameron Wright, Marc L. Robbins, Matthew E. Boyer, Daniel P. Felten, and Matthew Lewis.

Direct Threats to Forces in Transit

The primary threat against forces in transit is against surface vessels; as these are somewhat slower-moving, larger targets, they are relatively more vulnerable to direct attack than aircraft that carry personnel and equipment. Threats against surface vessels can include air-launched antiship cruise missiles, as well as submarines that can employ mines, torpedoes, or antiship cruise missiles against detected targets. At distances closer to the threat homeland, the risk from ground-launched and surface-vessel-launched missiles increases. In some cases, larger vessels may be subjected to attacks by antiship ballistic missiles if they are considered of sufficient importance, although these are more likely to be employed against high-value naval combatants. It does not appear that current threats against aircraft en route to the theater are as substantial as those facing naval vessels, but it is worth noting that adversary capabilities increase as one attempts to fly closer to adversary homeland or bases and that the development and fielding of ultra-long-range air-to-air missiles is ongoing by several potential threat nations. Combined with very-long-range sensing and low observable aircraft, threat capabilities against air transports are likely to continue growing.

Another major operational challenge will be the potential for China to contest force projection operations and the movement through points of departure within the first island chain and to potentially interdict sea lines of communication out to the second island chain.⁵ Chinese long-range strike capabilities in particular threaten lengthy deployment operations, which require the use of fixed infrastructure. In addition, the potential need for transport ships to travel through archipelagic waters and narrow maritime straits by channelizing their routes may make them increasingly vulnerable to Chinese submarines and mines. Finally, strategic lift aircraft may be susceptible to interception by Chinese long-range aircraft as they transit through the South China Sea region or approach the Chinese mainland. All of this raises the possibility that lift operations as they are currently conducted may not be able to start at an acceptable risk level until after Chinese long-range strike capabilities have been reduced or defensive measures to protect the deployment operations have been emplaced.

Direct Threats to Key Transportation Nodes

Surface vessels and aircraft will be at greater risk when located at large ports or airfield facilities. The threat against identified points of debarkation in the Indo-Pacific will be considerable. Essentially, all likely state adversaries have developed and fielded ballistic missile capabilities that could enable them to at least complicate operations in ports and air bases. In particular, the risk of complex, structured attacks poses serious challenges for defenses and can be more easily planned and executed against well-known area targets, including air bases. There are also opportunities for nontraditional or irregular threats to identified locations such as these. For example, in those locations where civilian and military vessels

⁵ Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2019*, U.S. Department of Defense, 2019, pp. 47, 54–56, 58, 62, 88.

are both potentially operating in close proximity, the risk of these being used as blockships or cyber threats complicating the direction of merchant shipping in constrained areas could pose problems for deployment. Additionally, irregular or SOF presenting threats (for example, mortar, sniper, or missile fire against transport aircraft) to known locations is a potential problem.

Indirect Efforts to Complicate or Defeat Movement of Forces

This third general category of challenges to movement is intended to capture the variety of efforts that an adversary nation may attempt to deny access or complicate the movement of U.S. forces to their desired destination. Probably the most important of these is pressure on a host nation to deny access outright or to at least limit access and rules of engagement to constrain U.S. freedom of action. This is an acute challenge for Army fires forces if the host nation is not party to the emerging or ongoing conflict, but it also can be a problem over time for ensuring interoperability with partners.

Another threat is an adversary nonkinetic attack on CONUS mobilization and deployment of expeditionary forces. This primarily would be Chinese (or other adversary) cyberattacks against U.S. military or civilian infrastructure and network systems and would be designed to slow, constrain, or otherwise degrade U.S. military mobilization. These attacks could focus on any number of targets, but high-profile targets might include U.S. Transportation Command's software and networks. As DoD's 2021 report on Chinese military power states:

The PRC [People's Republic of China] presents a sophisticated, persistent cyber espionage and attack threat to military and critical infrastructure systems. The PRC seeks to create disruptive and destructive effects—from denial-of-service attacks to physical disruptions of critical infrastructure—to shape decision-making and disrupt military operations at the initial stages and throughout a conflict. . . . The PRC's cyber attack operations target critical military and civilian nodes, including civilian critical infrastructure, to deter or disrupt adversary intervention, and retain the option to scale these attacks to achieve desired conditions with minimal strategic cost . . . [and specific targets may include] network-based logistics, C2, communications, commercial activities, and civilian and defense critical infrastructure.⁶

Guidance for Concept Development

The totality of the analyses presented here suggests that the flow of forces into theater will be constricted. Some of this constriction will be due to the challenging timelines imposed by

⁶ Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2021*, U.S. Department of Defense, 2021, pp. 79, 88.

the long distances in the Indo-Pacific. Another source of constriction will be enemy action, which may vary depending on the nature of the threat. We summarize these constriction sources in three basic guidelines:

- All Regular Army INDOPACOM-aligned units in the AimPoint force will require ten days to arrive in theater.
- All Army National Guard and Reserve INDOPACOM-aligned units in the AimPoint force will require 30 days to arrive in theater.
- All Regular Army CONUS-aligned units in the AimPoint force will require 30 days to arrive in theater.

Sustainment

The sustainment of expeditionary land forces in the Indo-Pacific is an especially vexing problem to consider for any employment concept. In this appendix, we examine analytical considerations related to the two most problematic sustainment issues: supply and distribution. We also examine uncertainties and risks of Chinese action. Sustainment assumptions and planning principles may not hold because many employment concepts will likely feature the dispersal or disaggregation of units, complicating sustainment issues. Finally, we conclude with a tangible set of constraints stemming from these analyses.

Analytical Considerations

In this section, we focus on supply and intratheater lift and distribution considerations, since they will be challenging for any potential use of land power in the region. Intertheater lift is handled in a separate constraint.

Intratheater Lift and Distribution

Lift and distribution are significant challenges to deploying and sustaining a multidomain-capable, disaggregated force in the region. We explore the size, sustainment requirements, and lift assets needed for four generic task forces of varying size and capability to illustrate the following:¹

- **reinforced IBCT** of 5,707 personnel and 24,556 short tons of equipment, requiring 38.7 short tons of daily sustainment—less water, bulk fuel, and classes IV and V²

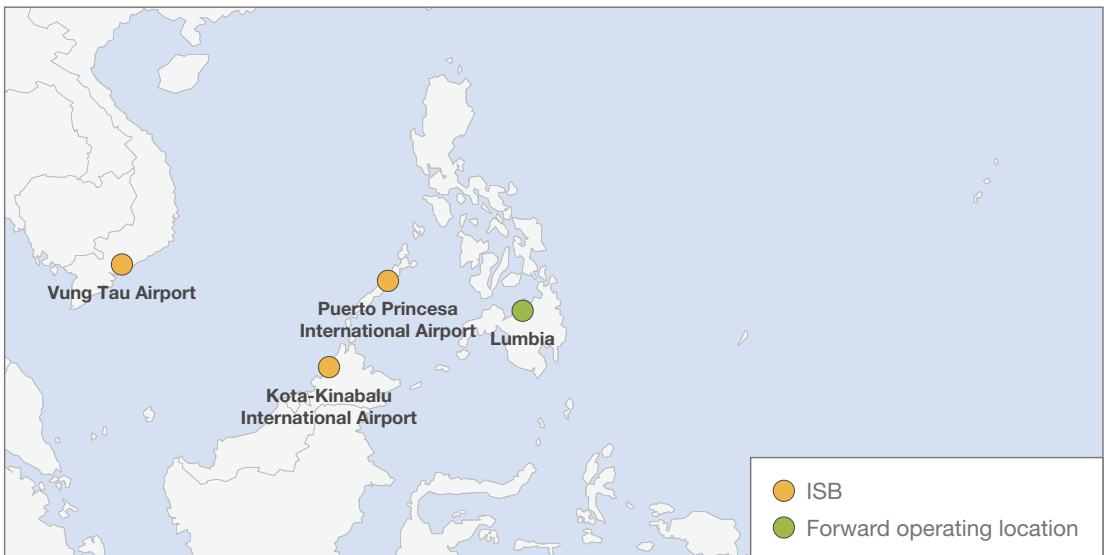
¹ The reinforced IBCT consists of an IBCT and a number of enablers, including engineer, military police, CBRN, and sustainment personnel. It is based on the IBCT equipment set in APS-3. The infantry battalion task force consists of a light infantry battalion and its forward support company. The fires task force consists of a HIMARS battalion and its forward support company. The SFAB is a standard SFAB.

² We assumed that MREs (meals ready to eat) would be used in the initial stages of an operation to fill a task force's class I requirements. Importantly, we also assumed for the purposes of intratheater movement that the bulk fuel, water, and class IV barrier and construction supplies would be procured locally, in country. Finally, we also excluded class V supplies because the Quick Logistics Estimation Tool (QLET) does not appear to produce credible consumption rates for combat formations.

- **infantry battalion task force** of 769 personnel and 1,234 short tons of equipment, requiring 3.9 short tons of daily sustainment—less water, bulk fuel, and classes IV and V
- **fires task force** of 500 personnel and 3,342 short tons of equipment requiring 3 short tons of daily sustainment,—less water, bulk fuel, and classes IV and V
- **SFAB** of 803 personnel and 2,114 short tons of equipment, requiring 3.7 short tons of daily sustainment—less water, bulk fuel, and classes IV and V.

We used existing Army planning factors for our assumptions as much as possible. Unit sizes are according to approved MTOEs. Daily logistics demands are based on the QLET. We assume a simple distribution network between a notional ISB at Lumbia Airfield in the Philippines and forward operating locations in the Philippines (Antonio Bautista Air Base), Malaysia (Kota-Kinabalu International Airport), and Vietnam (Vung Tau Airport). For lift, we assume that a notional squadron of eight U.S. Air Force C-17s are available, or either eight LCU-2000s (an LCU is a landing craft utility) or four logistic support vessels (LSVs).³ Figure D.1 shows the locations, and Table D.1 shows the results.

FIGURE D.1
Notional ISBs and Forward Operating Locations



³ These are purposefully liberal assumptions; joint demands for airlift will likely preclude the constant availability of a C-17 squadron, and the watercraft assumptions here represent over 50 percent of the entire Army watercraft fleet for those vessel types.

TABLE D.1

Lift and Sustainment Requirements for Various Army Force Packages

	IBCT(+)	Infantry Battalion Task Force	Fires Task Force	SFAB
Lift requirement (equipment sorties)	C-17: 561 LSV: 63.3	C-17: 28 LSV: 3.8	C-17: 88 LSV: 8.4	C-17: 70 LSV: 7.6
C-17 initial closure (days)	Philippines: 37.7 Malaysia: 37.8 Vietnam: 40.3	Philippines: 1.9 Malaysia: 1.9 Vietnam: 2	Philippines: 5.5 Malaysia: 5.5 Vietnam: 5.9	Philippines: 4.7 Malaysia: 4.7 Vietnam: 5
Initial deployment closure (LSV)	Philippines: 33 Malaysia: 44.8 Vietnam: 95.4	Philippines: 2 Malaysia: 2.7 Vietnam: 5.7	Philippines: 4.4 Malaysia: 5.9 Vietnam: 12.6	Philippines: 3.2 Malaysia: 5.3 Vietnam: 9.2
Sustainment requirement (equipment sorties)	C-17: 1.7 LSV: 0.2	C-17: 0.2 LSV: 0.02	C-17: 0.2 LSV: 0.02	C-17: 0.2 LSV: 0.01
Daily sustainment closure (LSV)	Philippines: 0.3 Malaysia: 0.4 Vietnam: 1	Philippines: 0 Malaysia: 0.1 Vietnam: 0.1	Philippines: 0 Malaysia: 0.1 Vietnam: 0.1	Philippines: 0 Malaysia: 0 Vietnam: 0.1

NOTE: For the Philippines, we use Antonio Bautista Air Base; for Malaysia, we use Kota-Kinabalu International Airport; for Vietnam, we use the Vung Tau Airport.

PrSM Resupply Is Especially Challenging

One potentially critical future intratheater sustainment mission is PrSM resupply. This potential requirement is highly dependent on the underlying contingency, since it is driven by the number of missiles each launcher is expected to fire each day. As a baseline for the following analysis, we assume that each launcher will fire six PrSMs per day in a major contingency.⁴ At this rate, the planned Army stock of 2,422 PrSMs would be expended in some 25 days. Table D.2 provides the number of platforms required to move a HIMARS battalion's daily supply of PrSMs for a range of launcher rates of fire. The shaded row highlights the baseline rate of fire of six PrSMs per launcher per day. The baseline demand can be moved using three C-17 or 12 C-130 sorties per day. Once on the ground, six HEMTT/Palletized Load System (PLS) with trailers or 12 High Mobility Terrain Vehicles with trailers could move the battalion's daily requirement of PrSMs. Less than a truck platoon would be required to make this move in a single lift. Given the slow speed at which watercraft move, moving the PrSMs by sea is more complex, but a single baseline day of supply of PrSMs can be moved by 0.3 LSV(L)s, 0.5 LSV(M)s, or 0.8 landing craft utility vehicles.

⁴ This figure is derived from U.S. Army Futures Command, *Battlefield Development Plan Book*, April 2020, p. 142. Not available to the general public. It states that three days of supply of PrSM for a 2 × 8 HIMARS battalion is 288 rockets. This equates to 96 rockets per day or six rockets (three pods) per launcher.

TABLE D.2

PrSM Movement Requirements for 2 × 8 HIMARS Battalion (1 day of supply)

Daily PrSM Requirement	Lift Platform								HEMTT/PLS	HMTV
	C-130	C-17	CH-47D	Container	LSV (L)	LSV (M)	LCU			
32 (2 PrSMs/ launcher)	4.0	1.0	4.0	8.0	0.1	0.2	0.3		2.0	4.0
64 (4 PrSMs/ launcher)	8.0	2.0	8.0	16.0	0.2	0.3	0.5		4.0	8.0
96 (6 PrSMs/ launcher)	12.0	3.0	12.0	24.0	0.3	0.5	0.8		6.0	12.0
128 (8 PrSMs/ launcher)	16.0	4.0	16.0	32.0	0.4	0.6	1.1		8.0	16.0
160 (10 PrSMs/ launcher)	20.0	5.0	20.0	40.0	0.5	0.8	1.3		10.0	20.0

SOURCE: Authors' analysis of U.S. Army Futures Command, *Battlefield Development Plan Book*.

NOTE: The shaded row is the Army's estimated PrSM day of supply. HMTV = High Mobility Terrain Vehicle.

Tables D.3 and D.4 provide information on the number of watercraft required to ensure supply of PrSMs from the notional ISBs on Guam and in the Philippines. The baseline rate of fire is unsustainable from Guam, as it would consume most of the Army's fleet. In aggregate, less of the fleet would be required from the Philippines, but it is still a substantial commitment to support on mission. Supply by watercraft might be even more challenging if the battalion is operating individual batteries or launchers from dispersed and noncontiguous locations.

The movement of relative scarce and high-value PrSMs by sea may also be risky. A fully loaded LSV(M) could potentially have 208 PrSMs onboard, or some 9 percent of the Army's planned inventory—potentially making it a high-value target for the Chinese military. The relatively slow movement of these vessels makes them vulnerable to air attack if the region's air space is contested or as they approach a port. In port, they can be offloaded in about two to five hours, providing a narrow window for targeting by China. With sufficient ISR capabilities, China could potentially exploit this window with its relatively limited arsenal of medium- and intermediate-range ballistic missiles. Targeting the offloading PrSMs with air-launched weapons or ground-launched cruise missiles, given the slower reaction times and longer flight times of these systems, could also be possible. Lastly, PrSMs could be targeted by the vast array of unmanned systems that the PLA is currently developing, including unmanned underwater vehicles, UAVs, and unmanned combat aerial vehicles.

TABLE D.3**Time Required for PrSM Resupply from the Guam ISB to Regional Seaports of Debarkation**

SPOD	Round Trip	Travel Time (days)			Watercraft Requirement		
		LCU	LSV (M)	LSV (L)	PrSM 1 DOS		
					LCU	LSV (M)	LSV (L)
Puerto Princesa	3,210	14.0	14.0	12.9	11.2	6.0	3.5
Kota Kinabalu	3,634	15.8	15.8	13.6	12.6	6.7	4.0
Vietnam	5,472	23.5	23.5	19.9	18.8	9.9	5.8

SOURCE: Authors' analysis of U.S. Army Futures Command, *Battlefield Development Plan Book*.

NOTE: SPOD = seaport of debarkation; DOS = day of supply.

TABLE D.4**Time Required for PrSM Resupply from the Philippines ISB to Regional Seaports of Debarkation**

SPOD	Round Trip	Travel Time (days)			Watercraft Requirement		
		LCU	LSV (M)	LSV (L)	PrSM 1 DOS		
					LCU	LSV (M)	LSV (L)
Puerto Princesa	367	2.2	2.2	2.2	1.8	1.0	0.6
Kota Kinabalu	581	3.1	3.0	3.0	2.5	1.4	0.9
Vietnam	1,502	6.9	6.2	6.2	5.5	3.0	1.8

SOURCE: Authors' analysis of U.S. Army Futures Command, *Battlefield Development Plan*.

NOTE: SPOD = seaport of debarkation; DOS = day of supply.

Supply

According to sustainment estimates, an MDTF-sized force will consume approximately 19 twenty-foot equivalents of dry cargo and 17,000 gallons of POL per day.⁵ The Defense Logis-

⁵ We based our MDTF force structure on the model presented in U.S. Department of the Army, "Force Design Operational and Organizational Paper (O&O): Multi-Domain Task Force (MDTF) DRAFT," April 8, 2020, Enclosure 3. To generate sustainment requirements for these two very different forces, we leveraged U.S. Army Combined Arms Support Command's QLET. The QLET derives from the more elaborate Operational Logistics (OPLOG) Planner tool typically used for highly detailed logistics estimates and provides a light, quicker means of producing rough-order sustainment requirements for a chosen force package. The force structure specified in the Army paper called for unit standard requirement codes that do not yet exist and thus were not available in the QLET. Appropriate proxy units, based on unit type and person count, available in the QLET were utilized to approximate the anticipated daily sustainment requirement for the MDTF.

tics Agency does not currently support significant commodity storage or distribution capability anywhere in the general area of the South China Sea. This means that any sizable force operating in the Philippines would need to be resupplied from one of the existing major hubs in the theater, such as Okinawa, or rely on operational contracting (which cannot fully substitute for organic supply).⁶

Prepositioned Equipment

Another consideration is the role of prepositioned equipment. The U.S. Army currently has two sets of prepositioned equipment sets in the region: the land-based APS-4 (northeast Asia) in South Korea and Japan and the afloat APS-3, which is homeported at Guam and Diego Garcia.

- **APS-3** is built around an IBCT, a sustainment brigade, and theater or port opening brigade (-) and is intended to support a variety of regional contingencies in Asia and Africa. It also has class V supplies and 30 days of sustainment supplies for an IBCT.⁷ Currently, APS-3 is largely configured to conduct operations in a relatively benign operational environment, and deploying its equipment while under threat from attack may be challenging because of potentially vulnerabilities while in transit or when unloading equipment at a seaport of debarkation. Historically, APS-3 has been used at a single location, and it might not be properly configured to support operations at multiple locations.
- **APS-4** is built around an ABCT and a sustainment brigade and is intended primarily to support contingencies on the Korean peninsula. It also includes watercraft, combat support hospitals, a wide variety of support equipment, and 60 days of Army war reserve sustainment stocks. Using APS-4 elsewhere in region would be potentially challenging and require the use of strategic lift assets.

Finally, it is unclear how well these APS sets can support emerging Army operational concepts that may not emphasize large-scale maneuver operations supported by long-range fires. Although the Army is expanding its APS activities in several Southeast Asian coun-

⁶ There does appear to be some established contracted capability for subsistence and fuel in the Philippines, but the capacity to support and accessibility to an MDTF-like force are not currently understood. See Defense Logistics Agency, “DLA Indo-Pacific IPLOC Capability Overview,” briefing, July 25, 2019.

⁷ The support equipment or operational project stocks include the Inland Petroleum Distribution System; U.S. Army Special Operations Command combat service support mobility and ground support capability; equipment to support reception, staging, onward movement, and integration (tents, cots, lights, etc.); hot- and cold-weather clothing (supporting Korean forces); bridging, aerial delivery equipment (cargo parachutes); mortuary affairs (equipment to conduct casualty storage and transfer); chemically protected deployable medical systems; force providers; bridging supplies; smoke generation; and noncombatant evacuation operation supplies. The supply classes are I, II, IIIP, IV, V, VII, VIII, and IX. Army Mobility Command, *Army Prepositioned Stocks*, March 2019, pp. 6–8, 12.

tries, these sets are likely to focus on capabilities that countries find acceptable, as a means of gaining further U.S. access; the capabilities themselves may not support emerging concepts.⁸

Uncertainties

Our analyses revealed three uncertainties that will affect the challenge of land force sustainment in the Indo-Pacific. We examine the challenge of dispersion and disaggregation and adversary action in this appendix. The challenge of supporting other services is examined in Appendix E.

Dispersion and Disaggregation Increases Sustainment Challenge

Greater unit dispersal to complicate enemy detection and targeting and to minimize the effects of artillery, air, and ground attacks is a key underlying tenet of MDO. Although detailed doctrine and techniques have yet to be developed, it is clear that dispersion will have some sort of impact on sustainment, especially logistics. Current concepts call for the functional elements of the MDTF (in particular, fires units) to operate in a highly dispersed posture over a “wide area.”⁹ This type of posture may exceed the capacity of its brigade support battalion to provide distribution. This battalion’s assets are envisioned to support the movement of cargo within a radius of approximately 30 km; our analysis suggests that dispersal could result in MDTF’s assets being arrayed across a 153 km² area.¹⁰

Division sustainment assets are supposed to support distribution at these greater ranges. However, these higher echelons of ground transportation do not appear to factor into the developing concepts for MDTF operations. If the deployed elements of the MDTF are not embedded within a larger Army deployment, they will require support from a combat sustainment support battalion, port opening units, and other sustainment elements. Until the nature of MDTF dispersal is fully understood, it will remain difficult to comprehensively assess the supportability of the concept from a sustainment standpoint.

Chinese Threats

Two types of threats to logistics operations in the region need to be considered: kinetic threats that seek to disrupt or destroy nodes and edges and nonkinetic threats that disrupt portions or entire systems of logistics.

⁸ RAND interview with USARPAC subject-matter expert.

⁹ U.S. Department of the Army, *Force Design Operational and Organizational Paper (O&O)*, p. 9.

¹⁰ Army Techniques Publication 4-90, *Brigade Support Battalion*, Headquarters, Department of the Army, June 2020, pp. 4-4-4-11; Field Manual 34-130, *Intelligence Preparation of the Battlefield*, Headquarters, Department of the Army, 1994, p. B-37.

Kinetic Threat: Distribution Is Vulnerable to Chinese Fires

In addition to the inherent challenges of sustaining dispersed forces over large distances, the Chinese military possesses capabilities to further complicate sustainment operations in the theater. The PLA's long-range strike capabilities have evolved to the point where they can now hold effectively all of the Army's key sustainment hubs in the theater at risk. As of 2017, the PLA had the ability to saturate bases within the first island chain with thousands of missiles; currently, any facility within 800–1,000 nm of China is at risk.¹¹ Even previous sanctuaries, such as Guam, can be targeted by an increasing number of Chinese long-range strike systems.¹²

These land attack capabilities threaten the U.S. military with the loss of key forward-stationed sustainment stocks and the disruption of theater supply and distribution hubs through kinetic attack, which could dramatically reduce the capability of the 8th TSC and the Defense Logistics Agency to receive, process, and then redistribute strategic-level resupply from CONUS. Although Army operating concepts emphasize dispersal, a key chokepoint in any sustainment operation is likely to remain the fixed aerial ports and seaports of debarkation through which material must flow. Particularly in an environment where U.S. forces are subject to sophisticated enemy air-breathing and spaced-based ISR, supply and distribution operations supporting Army forces could be vulnerable. This threat may also discourage the availability of contracted support for distribution and logistics.

The PLA Navy can also potentially threaten the maritime approaches to Southeast Asia and maritime movement within the second island chain. The Office of Naval Intelligence's characterization of the PLA Navy's naval threat emphasizes submarines and aircraft out to about 540 nm and submarines and antiship ballistic missiles out to about 1,000 nm.¹³

Finally, Chinese air assets can further threaten U.S. logistics nodes and edges. PLA Navy Air Force JH-7As can threaten shipping in the East China and South China Seas up to 540 nm from Chinese bases.¹⁴ This threat would be supplemented by PLA Navy Air Force H-6G bombers and, if properly trained, a myriad of PLA Air Force fighter aircraft and fighter bombers. In addition, fixed facilities used to support maritime operations would also be at risk throughout the region.

This is likely to be accompanied by a growing array of unmanned systems under development by both the PLA Air Force and PLA Navy.

¹¹ Heginbotham et al., *The U.S.-China Military Scorecard*.

¹² Guam can be targeted by Chinese DF-26 intermediate-range ballistic missiles and H-6 M/K medium bombers equipped with CJ-20 cruise missiles.

¹³ The threat to large, medium-speed RO/RO vessels and intratheater movement from antiship ballistic missiles is unclear; it is likely that China would reserve these scarce assets for high-value targets, such as U.S. aircraft carriers or amphibious assault ships.

¹⁴ Office of Naval Intelligence, *The PLA Navy: New Capabilities and Missions for the 21st Century*, U.S. Navy, 2015, p. 8.

Nonkinetic Threats Can Be Even More Disruptive Across the Entire Logistics System

Nonkinetic threat vectors only exacerbate this issue. The reliance on automated systems and myriad layers of communication for sustainment operations provide many potential access points for enemy cyber and EW operations. Indeed, many of these systems are designed to interface with actors in the commercial sector and are thus even more vulnerable to compromise. Corruption, let alone full denial, of critical data flows related to the supply and demand of sustainment stocks undermines the foundation of effective sustainment: knowing who needs what where and when.¹⁵

Guidance for Concept Development

The totality of these analyses highlights the substantial challenge of sustaining any expeditionary land force in the Indo-Pacific without the benefit of a mature fixed basing infrastructure. Since this is unlikely, we distilled our analyses into these sustainment constraints for concept development:

- Airlift is confined to eight C-17 sorties per day.
- Defense Logistics Agency resupply must come from Guam or Okinawa.
- An MDTF-sized force can self-sustain for two days for operations in India and three days in all other cases.
- In all cases, forces must also provide sustainment for other services, as described in Appendix E.

¹⁵ Matthew Miller, “Multi-Domain Intelligence Support for Sustainment,” *Army Sustainment*, Vol. 51, No. 3, July–September 2019.

Joint Force Interaction

The U.S. Army's critical role as an enabler of joint operations in the Indo-Pacific will be a significant factor to consider in the development of any employment concept. This appendix examines analytical considerations, such as the nature of joint force needs from the Army and what those needs will likely be. We also explore uncertainties and conclude by distilling these analyses into tangible constraints to guide concept development.

Analytical Considerations

We first briefly summarize each service's operational concepts as they relate to the Indo-Pacific in the 2030 time frame. Next, we examine the relative value that Army capabilities provide to these concepts to determine what Army capabilities are most likely to be needed by the joint force. Finally, we examine the joint interdependencies of a multidomain Army.

A Summary of Joint Force Operational Concepts

We assume that the services will contribute to the joint force according to their intended operational concepts. No overarching joint warfighting concept has been developed to date, but each of the services has been steadily developing its own operational concepts that will influence how the entirety of the joint force will operate:

- **Navy:** The Navy will continue to deploy its surface, subsurface, air, and cyber capabilities in the region. During competition, these forces will primarily conduct freedom-of-navigation operations, exercise with allies and partners, and be prepared to respond to crises by maintaining ISR, naval special operations, and other assets. During conflict, these forces will narrow their focus to gaining and maintaining sea control and sea denial by containing or destroying enemy fleets and controlling sea lines of communication. They will also contribute to air operations with antisurface and land-attack fires and joint theater logistics, cyber, and space operations. Of all the services, the Navy is least likely to require close coordination with the Army.
- **Marine Corps:** During competition, the Marine Corps will continue to deploy task-organized forces that will include brigade-sized Marine Expeditionary Units largely embarked on Navy amphibious ships and smaller units (down to platoon-sized) largely

on land, drawn from Marine Littoral Regiments. Both types of units will conduct sea denial operations during competition and in conflict.¹ In addition, during competition, Marine Expeditionary Units will conduct crisis response and some special operations to support combatant commanders.

- **Air Force:** During conflict, the Air Force will wage an air campaign to degrade Chinese offensive capabilities. It will generate sorties through adaptive basing, which distributes aircraft and sustainment capabilities across a much wider area to limit the effects of the enemy A2/AD complex.²

Several trends are evident across these operating concepts that distinguish them from the way the joint force and the services have operated since about 2000. Spurred by the National Defense Strategy, they all focus on increased threats posed by peer adversaries. Each service focuses on smaller, more dispersed units while still generating the effects that greater consolidation and mass would entail. This in turn demands a higher degree of flexibility, integration, and situational awareness. Finally, there is a more distinct delineation between forces that are present in theater (“inside” forces) and those that must be projected (“outside” forces) from garrison. To fulfill these characteristics, the services must either reshape their force structures (as the Marine Corps intends to do) or rely on joint support.³ In the latter case, they may call on the Army.⁴

Assessing the Relative Value of Army Contributions to the Joint Force

In the absence of a joint warfighting concept or clear operational plans to guide our understanding of how the Army will interact with the joint force, we propose a framework to identify Army capabilities that will most likely be useful to other services.

This framework centers on two factors.⁵ First, it examines whether the Army capability is better than, on par with, or inferior to similar capabilities across the joint force. Does the

¹ Tasks include conducting surveillance and reconnaissance, information operations, screen/guard/cover, denying or controlling key maritime terrain, surface warfare operations, air and missile defense, strike, sustainment, or forward arming and refueling operations. See Headquarters, U.S. Marine Corps, *Tentative Manual for Expeditionary Advanced Base Operations*, U.S. Department of the Navy, February 2021, pp. A-1–A-12.

² Mills et al., *Building Agile Combat Support Competencies to Enable Evolving Adaptive Basing Concepts*.

³ For an analysis of the impact of distributed operations on the Air Force’s force structure, see Miranda Priebe, Alan J. Vick, Jacob L. Heim, and Meagan L. Smith, *Distributed Operations in a Contested Environment: Implications for USAF Force Presentation*, RAND Corporation, RR-2959-AF, 2019.

⁴ For example, distributed Air Force bases may need additional Army air and missile defense and local security capabilities.

⁵ The framework is adapted from the redundancy framework developed by Leo J. Blanken and Jason J. Lepore, “Unpacking the Various Meanings of Redundancy: From Refining the Concept to Military Plan-

Army have an appreciably greater capacity to provide the capability, as it does in the case of surface distribution? Does the Army provide the only, or a higher-quality, contribution, as is the case in theater sustainment? Conversely, does another service provide a greater or higher-quality version of the capability?

Second, the framework considers how the joint force might use a given capability. Can the joint force use all contributions to a capability? Or does it need only the highest, or best, contribution? The latter may be the case when coordination, synchronization, or integration is needed, as is the case in theater logistics.

Using this framework, we enumerated the capabilities that the Army is likely to be called on to provide in the 2030 time frame. We primarily drew from capabilities in the Army's AimPoint 2035 force that have been identified as being aligned to INDOPACOM, but we also examined existing arrangements, such as executive agency, and previous RAND research on the question of Army interactions with the joint force.⁶ Table E.1 summarizes our assessment.

Comparison of the service operational concepts with the relative value of various Army capabilities in the Indo-Pacific suggests that the following capabilities are the ones the Army will be most likely to be called on to provide in some way:

- **Theater sustainment:** The joint force will likely continue to rely on the Army to organize and execute sustainment efforts across the theater, as it has done in the past. This will include demands for theater supply, expeditionary contracting support, and medical support capabilities. Orchestrating these capabilities will likely fall on the Army's 8th TSC.⁷
- **Distribution, including watercraft:** Both the Air Force and Marine Corps are likely to need distribution capabilities to support their disaggregated airfields and expeditionary advance bases.⁸ This will likely include surface distribution in the form of light and medium truck units, as well as watercraft over tactical (<800 nm) distances. In either case, a high volume of distribution capabilities will be needed, as both services expect to operate across a large number of nodes, quickly shifting from one to the next as often as

ning," *Defense and Security Analysis*, Vol. 28, No. 4, 2012.

⁶ The DoD Executive Agent Program website lists approved AimPoint Force units flagged for INDOPACOM; see James Dobbins, Michael J. Mazarr, Nathan Beauchamp-Mustafaga, Jonah Blank, Derek Eaton, Derek Grossman, Jeffrey Hornung, Lyle Morris, Stephanie Pillion, and Andrew Scobell, *Competition with China in the Indo-Pacific: U.S. Army Roles and Missions*, RAND Corporation, 2019, Not available to the general public.

⁷ For additional details, see Abby Doll, Bryan Boling, Caroline Baxter, Karlyn D. Stanley, Jason R. Vick, and Jonathan P. Wong, *Getting to the Fight: Identifying Risks to Reception, Staging, Onward Movement, and Integration*, RAND Corporation, 2020, Not available to the general public.

⁸ Marine Corps sustainment gaps have been noted by numerous analysts, including Ben Wan Beng Ho, "Shortfalls in the Marine Corps' EABO Concept," *Proceedings* (U.S. Naval Institute), Vol. 146, July 2020.

TABLE E.1

Relative Value of Army Capabilities in the Indo-Pacific

	Joint Force Needs Best Contributor	Joint Force Needs All Contributors
Army provides better contribution in capacity or quality	<ul style="list-style-type: none"> • Theater sustainment • Supply • Distribution • <i>Expeditionary contracting</i> • CBRN • C-UAS (groups 1–3) 	<ul style="list-style-type: none"> • <i>Air and missile defense</i> • Fires (ground based long range) • Train and advise • <i>Watercraft</i> • Combat engineering • Military police • Rotary-wing aviation • Rotary-wing aviation maintenance • Infantry (any type)
Army provides identical contribution as other services	<ul style="list-style-type: none"> • C4ISR, particularly for integrating long-range fires and air and missile defense • General C2 (e.g., JTF-capable) 	<ul style="list-style-type: none"> • Civil affairs • Medical • Information warfare support • Explosive ordnance disposal • Intelligence support • Cyber warfare support • SOF
Army provides less optimal in capacity or quality of contribution		<ul style="list-style-type: none"> • Fires (antiship)

NOTE: Bold denotes capabilities potentially needed to support Air Force operations. Italics denote capabilities needed to support naval (primarily Marine Corps) operations. C-UAS = counter-unmanned aerial system.

every 48–72 hours.⁹ There are no indications that either service will be altering its force structure to accommodate those increased distribution needs, although both services (particularly the Marine Corps) are making efforts to lighten their distribution needs.¹⁰

- **Air and missile defense:** The Army’s long-standing role as the lead service on land-based air and missile defense will almost certainly require it to employ these capabilities in support of other services. The Marine Corps, for instance, notes that it may need to control Patriot brigades if it is designated as the air and missile defense commander for

⁹ See Headquarters, U.S. Marine Corps, *Tentative Manual for Expeditionary Advanced Base Operations*, pp. 1-3–1-6; Mills et al., *Building Agile Combat Support Competencies to Enable Evolving Adaptive Basing Concepts*.

¹⁰ For example, the Marine Corps has been focusing on alleviating bulk-fuel-distribution solutions by developing autonomous systems and more-robust and more-adaptable distribution network nodes through its Mobile Amphibious Assault Fuel Distribution Experimentation initiative in partnership with the Navy. See Justin Katz, “Marine Corps to Conduct Maritime Fuel Transfer Experiments in Coronado,” *Inside Defense*, August 30, 2018.

an operation.¹¹ In many scenarios, enhancing air base defenses against cruise missiles can significantly contribute to the ability of land-based air forces to generate and sustain combat power.¹²

- **A variety of capabilities to support Air Force operations:** The Air Force is likely to need the most Army support to enable its operations. In particular, it will need infantry or military police and C-UAS capabilities to protect its many operating locations and engineering capabilities to supplement its organic runway repair units. It may also need rotary-wing aviation (and maintenance) to support distribution needs.

Another factor to consider is the amount of strategic lift required to deploy these forces. The AimPoint initiative does not indicate where forces that are allocated to INDOPACOM will be drawn from. A requirement for strategic lift may constrain the availability or force flow capabilities with outsized equipment weight or volume.¹³

Uncertainties

Several uncertainties should be factored in when considering how the joint context may affect Army employment concepts in the Indo-Pacific. First, the needs of other services are uncertain. Although this list is informed by existing data and analyses, these results are only speculative. Joint integration of these concepts has only recently begun, and no definitive conclusions have been reached about capabilities that are needed. For instance, we have little understanding of the Navy's needs. Additionally, the Army possesses other capabilities not allocated to INDOPACOM in the AimPoint force; these capabilities might also be called on to support other services.

Second, some capabilities are still being developed. Since the capabilities are drawn largely from the AimPoint force that is expected to be developed in the future, some capabilities may not come to fruition or may be actualized in a different way from what is envisioned currently. This is especially true for C4ISR, C-UAS, and antiship fires capabilities. C4ISR capabilities, particularly those related to controlling multidomain fires in a timely and effective manner, are still in the early phases of technology development and risk reduction.¹⁴ C-UAS

¹¹ Headquarters, U.S. Marine Corps, *Tentative Manual for Expeditionary Advanced Base Operations*, p. 6-6.

¹² Brent Thomas, Brent, Mahyar A. Amouzegar, Rachel Costello, Robert A. Guffey, Andrew Karode, Christopher Lynch, Kristin F. Lynch, Ken Munson, Chad J. R. Ohlandt, Daniel M. Romano, Ricardo Sanchez, Robert S. Tripp, and Joseph Vesely, *Project AIR FORCE Modeling Capabilities for Support of Combat Operations in Denied Environments*, RAND Corporation, RR-427-AF, 2015.

¹³ This is based on fiscal year 2021 approved MTOEs; future MTOEs may contain less heavy or voluminous equipment.

¹⁴ Greg Hadley, "Air Force Leadership Needs to 'Walk the Walk' in Baking Security into Cyber, Software Boss Says," *Air Force Magazine*, August 12, 2021.

capabilities exist, but the Army has yet to develop them at scale.¹⁵ Antiship fires also still require further terminal guidance development.¹⁶

Finally, resource constraints may affect the availability of capabilities. In other circumstances, Army capabilities may not be adequately resourced, resulting in limited availability. This may be the case for watercraft and cruise missile defenses.¹⁷

Guidance for Concept Development

The analyses presented here lead us to recommend the following constraints on concept developers:

- Army National Guard and Reserve units may require significant time to mobilize and deploy; they will only be available after 90 days.¹⁸
- Approximately 75 percent of theater sustainment capabilities in INDOPACOM-aligned AimPoint units will be allocated to the joint force and will be unavailable for Army operations.
- The Army will fulfill U.S. Air Force agile combat employment support requirements first whenever they are demanded.
- Aside from U.S. Air Force needs, one Patriot battalion from a composite air defense brigade will be required to support Marine Corps expeditionary advanced base operations whenever expeditionary advanced bases are employed.
- The Army will only have 50 percent of watercraft in inventory available.

¹⁵ For more details, see DoD, *Counter-Small Unmanned Aircraft Systems Strategy*, 2021.

¹⁶ Jen Judson, “Army Preps for Key Tests of Seeker Capable of Attacking Maritime Targets,” *Army Times*, January 20, 2021.

¹⁷ Christopher G. Pernin, Jan Osburg, Anthony Adler, Tim Conley, Bradley Martin, Ryan A. Schwankhart, Alice Shih, Jonathan Tran, Jonathan Welch, and Jonathan P. Wong, *The Future of U.S. Army Watercraft: Alternative Strategies*, RAND Corporation, 2021, Not available to the general public.

¹⁸ See Ellen M. Pint, Matthew W. Lewis, Thomas F. Lippiatt, Philip Hall-Partyka, Jonathan P. Wong, and Tony Puharic, *Active Component Responsibility in Reserve Component Pre- and Postmobilization Training*, RAND Corporation, RR-738-A, 2015.

Command and Control

At the heart of the Army's emerging MDO doctrine is a requirement for a new practice of C2. MDO's capstone document states this about C2: "Effective multi-domain command and control requires a resilient technical architecture, flexible command relationships, and multi-domain control measures."¹ This appendix examines a number of contemporary C2 issues that may affect how an employment concept is developed. We first discuss general analytical considerations and uncertainties about those considerations, then offer general guidance for concept development.

Analytical Considerations

Two main analytical considerations are examined here: the tension between competing C2 approaches exacerbated by MDO and the role of technology in the development of new C2 approaches.

Trends Toward MDO Are Straining Tensions Between Existing C2 Approaches

The perennial tension between centralized and decentralized C2 is not new. However, the Army's emerging preference for MDO and the challenge of rising Chinese military capability demand that we examine these tensions again as we develop new employment concepts. In the section, we examine the definitions, uses, challenges, and benefits of both approaches.

Directive Command Is Under Stress from More Domains and Nodes

Directive command, or detailed C2, is one extreme in the spectrum of approaches to organizing militaries for action. This approach is one that pursues certainty by imposing order on the chaos of combat through centralizing authority and providing detailed directives. In execution, commanders hold tight reins on the actions of their subordinates.² Although this

¹ U.S. Army Training and Doctrine Command, *U.S. Army in Multi-Domain Operations 2028*, p. 23.

² Marine Corps Doctrinal Publication 6-0, *Command and Control*, U.S. Department of the Navy, Headquarters, U.S. Marine Corps, April 4, 2018, pp. 2–15.

form of command is never practiced to the extreme described here, its philosophy is most evident in the employment of military capabilities that have effects that are outsized compared with their footprint. One example is commanding airpower, which has the ability to directly affect strategic and operational levels of war.³ The same is likely for cyberspace capabilities, and possibly some space ones as well. By comparison, ground maneuver and ground-based tactical fires rarely have strategic effects in large geographic areas or across domains.

The chief advantage of this form of command is that it enables synchronization, which allows a commander to efficiently concentrate the mass of their combat power. For some elements of combat power, such as airpower or cyber weapons, tight integration is necessary because their use causes effects across domains or geographic areas; synchronization is required to maximize utility without incurring possible fratricide or other unwanted effects on friendly forces.

The downside of centralized control is that it offers little opportunity for subordinates to exploit fleeting opportunities. It also constrains action in the absence of clear guidance, which may be the case if communications are degraded or disrupted. More fundamentally, directive command may not be able to impose the degree of order demanded due to the inherent complexity and uncertainty of the battlefield.⁴

This last challenge is exacerbated by the increasing integration of cyber and space capabilities in military operations. These additional capabilities will challenge the capability and capacity of centralized control nodes (e.g., air operations centers).⁵ This is driving military decisionmakers to consider AI to lighten the cognitive load. This in turn creates a new series of concerns about the quality and transparency of decisions aided or made by machines.⁶

Mission Command: Is It Appropriate or Feasible?

Mission command, on the other hand, seeks to decentralize the execution of a commander's military goals by devolving decisionmaking down to the lowest relevant level of command.⁷ These subordinate levels of command are given broad guidance on the commander's goals and the latitude to pursue them. Although Army doctrine characterizes centralization as a variable that can be relaxed or constrained depending on the situation, in practice mission command is understood to represent more decentralization and devolution than the opposite.

³ Air Force Doctrine Publication 1, *The Air Force*, U.S. Air Force, 2021, pp. 6–10.

⁴ Marine Corps Doctrinal Publication 6-0, *Command and Control*, pp. 2–15.

⁵ Sherrill Lingel, Jeff Hagen, Eric Hastings, Mary Lee, Matthew Sargent, Matthew Walsh, Li Ang Zhang, and David Blancett, *Joint All-Domain Command and Control for Modern Warfare: An Analytic Framework for Identifying and Developing Artificial Intelligence Applications*, RAND Corporation, RR-4408/1-AF, 2020, pp. 1–2.

⁶ For a more in-depth examination of this topic, see Paul Scharre, *Army of None: Autonomous Weapons and the Future of War*, W. W. Norton & Company, 2018, pp. 137–199.

⁷ Army Doctrine Publication 6-0, *Mission Command*, pp. 1-3–1-4.

There are several benefits to a mission command approach to military operations. When planned and executed properly, leaders are better able to exploit unforeseen or fleeting opportunities. Decentralized execution is better able to cope with degraded or disrupted communications. It is also considered to be a higher-minded way of operating; the Army's culture will instinctively strive for greater decentralization because that aligns with its culture and self-image.⁸

However, it is a high-risk proposition to allow subordinate commanders, who may all think and approach a military problem differently, to act freely. The results of these actions may not be to the higher commander's intent. In some cases, such initiative results in disaster and outright destruction.⁹ Moreover, there are some doubts that the Army regularly practices the mission command philosophy it espouses.¹⁰

Finally, some theorize that mission command is not always an appropriate means of exercising C2. Capabilities with strategic implications (e.g., hypersonic weapons, offensive cyber capabilities) require more of the former to fully exploit their utility.

Only Flexible C2 Rectifies the Tension

At the heart of all of this is a tension between centralized control and distributed command that plays out between services and domains. Adding domains, hierarchies, and nodes furthers the tension. This may drive leaders to demand more directive control of subordinates than the Army would like to believe is happening. If those hierarchies include substantial reliance on strategic fires, space assets, and cyber weapons (among others), the tension between what the Army doctrinally believes and how it practices C2 may be strained to the breaking point.

The ideal is a mixture of both; fluidly transitioning between more or less central control as the situation calls for it. The French general Guy Hubin articulated this ideal as a fluid relationship between military units and hierarchies; the militaries that will perform best, he believed, were ones that eschewed fixed hierarchical relationships.¹¹ In some cases, hierarchies remain the same; in others, lower elements of a hierarchy direct higher ones to take advantage of a situation. How this ideal state of flexibility is achieved and governed remains unanswered and largely unasked.

⁸ See Amos Fox, "Fighting for the Soul of Western Militaries," *Western Way of War* podcast, March 4, 2021; and Zimmerman et al., *Movement and Maneuver*.

⁹ L. Burton Brender, "The Problem of Mission Command," *Strategy Bridge*, September 1, 2016.

¹⁰ Paul Birch, Ray Reeves, and Brad Dewees. "Building the Command and Control of the Future from the Bottom Up," *War on the Rocks*, January 16, 2020.

¹¹ *Homothety* is a geometry term that refers to the dilation of a shape in space relative to a fixed point. See Shurkin, "Kill the Homothetic Army."

The Role of Technology

The conversation about C2 today mainly revolves around the role of technology and its ability to enable faster, more-effective kill chains. C2 in this regard is synonymous with fires; the services are seeking to build an architecture that can connect any sensor to any weapon (referred to in practice as a *shooter*).

The Air Force and Army have both made significant strides to connect systems that were previously stovepiped, and leadership continues to focus on solving technical obstacles related to this remain strong. The Army's Integrated Air and Missile Defense Battle Command System is intended to link all Army sensors and radars with Navy, Marine Corps, and Air Force ones to build offensive kill chains and control integrated air and missile defense. Both systems use some degree of AI to lighten the cognitive load of observing and acting on information in a fast-moving, complex environment.

Some observers, such as those at the U.S. Army War College, have warned that the strong emphasis on the technological aspects of C2 may skew the joint force's maturation of the concept. The focus on technology results in an emphasis on greater centralized control, especially if there is no corresponding advance in the practices and norms of command.¹² The principles and rules that govern the AI elements of some systems, such as the Integrated Air and Missile Defense Battle Command System, may also need to be examined and considered closely.

Uncertainties

Three uncertainties will affect our consideration for C2. First, will the Army make enough technical strides in communications and information processing systems that they can enable appreciably greater situational awareness and span of control? On the one hand, it appears that the Army and other services are steadily weaving more systems together.¹³ On the other hand, it is not clear whether these incremental steps will continue to grow to meet the goal of connecting "every sensor with every shooter."¹⁴

More deeply, it is not clear whether the Army can inculcate the doctrinal flexibility needed to support concepts of employment that integrate more domains and more disaggregated forces. The Army War College notes that personnel today often do not have the requisite knowledge across enough domains to fully use capabilities even if the technical problem is solved.¹⁵ This issue has not been the subject of leader attention in public statements and

¹² Clark et al., *Command in Joint All-Domain Operations*, pp. 51–62.

¹³ Jen Judson, "Inside Project Convergence: How the US Army Is Preparing for War in the Next Decade," *Defense News*, September 10, 2020.

¹⁴ Paul McLeary, "JADC2 Faces 'Huge Weakness': Old Policies, Old Tech," *Breaking Defense*, March 3, 2021.

¹⁵ Clark et al., *Command in Joint All-Domain Operations*, pp. 53–57.

writings. The magnitude required to shift an organizational culture and professional practice suggests that the Army will not address this issue sufficiently in the time allotted, but this is not certain.

The third uncertainty results from the interaction between technology and practice; the Army's approach and innovation capabilities may not suffice to create systems and practices that can enhance C2. The information researcher Jon Lindsay's examination of military information problems and organizational responses is a useful framework to consider here. The military information problem of matching sensors to shooters in a dynamic environment is an unbounded and unstable problem. Current Army institutional responses are formalistic. The result is an *insulated practice* that "reinforces [institutional] myopia and misperception" of the problem.¹⁶ The Army and DoD are starting to create more-adaptive institutional practices (e.g., defense innovation initiatives, such as the Defense Innovation Unit), which have the potential to create performance-enhancing information practices, but whether these efforts are successful remains to be seen.

Guidance for Concept Development

Distilling the preceding examination of C2 issues into a tangible set of rules is challenging. However, one general insight emerges: The development and implementation in the next decade of radically more-sophisticated C2 principles that address the tensions noted in this appendix are not certainties. Therefore, we offer two basic, conservative principles for employing forces to ensure that they do not exceed what commanders are capable of commanding and controlling:

- If a concept places a headquarters more than 500 km from its operational units, those units lose 20 percent of their capability to conduct operations, communicate, and sustain themselves.
- If a concept requires a span of control of greater than three units per command element, the subordinate units lose 30 percent of their capability to conduct operations, communicate, and sustain themselves.

¹⁶ Jon R. Lindsay, *Information Technology and Military Power*, Cornell University Press, 2020, p. 212.

Abbreviations

(+)	a unit that is reinforced with other units
(-)	a unit that is missing a subunit
A2/AD	antiaccess/area denial
ABCT	armored brigade combat team
AI	artificial intelligence
AI/ML	artificial intelligence and machine learning
APS	Army prepositioned stock
BCT	brigade combat team
C2	command and control
C4ISR	command, control, communications, computers, intelligence, surveillance, and reconnaissance
CBRN	chemical, biological, radiological, and nuclear
CFT	cross-functional team
COFA	Compact of Free Association
CONUS	continental United States
COVID-19	coronavirus disease 2019
C-UAS	counter-unmanned aerial system
DoD	U.S. Department of Defense
DOTMLPF-P	doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy
EAB	Echelons Above Brigade
EDCA	Enhanced Defense Cooperation Agreement
EECP	early entry command post
EW	electronic warfare
FAS	Freely Associated States
FPDA	Five Power Defence Arrangements
HEMTT	Heavy Expanded Mobility Tactical Truck
HIMARS	High Mobility Artillery Rocket System
HQ	headquarters
I2CEWS	intelligence, information, cyber, electronic warfare, and space
IBCT	infantry brigade combat team
IE	information engagement

IFPC	Indirect Fire Protection Capability
INDOPACOM	U.S. Indo-Pacific Command
ISB	intermediate staging base
ISR	intelligence, surveillance, and reconnaissance
IT	information technical
JTF	joint task force
LCU	landing craft utility
LRHW	Long-Range Hypersonic Weapon
LRPF	long-range precision fires
LSV	logistic support vessel
MDO	multidomain operations
MDT	Mutual Defense Treaty
MDTF	multidomain task force
MSC	U.S. Military Sealift Command
MST	Maritime Strike Tomahawk
MTOE	modification table of organization and equipment
PED	processing, exploitation, and dissemination
PLA	People's Liberation Army
PLS	Palletized Load System
PrSM	Precision Strike Missile
QLET	Quick Logistics Estimation Tool
RO/RO	roll-on/roll-off
SDDC	U.S. Surface Deployment and Distribution Command
SFAB	Security Force Assistance Brigade
SM-6	Standard Missile 6
SOF	special operations forces
THAAD	Terminal High-Altitude Air Defense
TLS	Terrestrial Layer System
TSC	theater sustainment command
UAS	unmanned aircraft system
UAV	unmanned aerial vehicle
USARPAC	U.S. Army Pacific Command
VFA	Visiting Forces Agreement

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This report seeks to address how the U.S. Army can most effectively project and employ land power in the Indo-Pacific, during competition and conflict, with a focus on scenarios involving China. The authors developed three concepts to guide the Army's ground force role in the theater, offering the essential architecture of basing, information, relationships, and flexible combat power needed to make the joint force effective.

In addition to outlining the elements of a wide-ranging, dynamic Army role in the region, the authors produced several complementary insights that could help shape Army planning for the theater. Most of these are already a major part of thinking at U.S. Army Pacific. General principles of future Army power projection in the region are well understood; the task now is to take seriously their full implications and build the needed capabilities. The authors also identified several elements of a refined vision of power projection for the Army. That new vision includes several roles and missions apart from flowing large combat forces and focuses on smaller units that are more feasible within the assessed operational constraints.

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