

2018

Japan's Defense Readiness: Prospects and Issues in Operationalizing Air and Maritime Supremacy

Ryo Hinata-Yamaguchi

Follow this and additional works at: <http://digital-commons.usnwc.edu/nwc-review>

Recommended Citation

Hinata-Yamaguchi, Ryo (2018) "Japan's Defense Readiness: Prospects and Issues in Operationalizing Air and Maritime Supremacy," *Naval War College Review*: Vol. 71 : No. 3 , Article 5.
Available at: <http://digital-commons.usnwc.edu/nwc-review/vol71/iss3/5>

This Article is brought to you for free and open access by the Journals at U.S. Naval War College Digital Commons. It has been accepted for inclusion in Naval War College Review by an authorized editor of U.S. Naval War College Digital Commons. For more information, please contact daniel.desilets@usnwc.edu.

JAPAN'S DEFENSE READINESS

Prospects and Issues in Operationalizing Air and Maritime Supremacy

Ryo Hinata-Yamaguchi

Facing a fluid regional security environment and the need to strengthen its alliance role, Japan has worked to increase the capabilities of the Japan Self-Defense Forces (JSDF). It has adjusted the relevant bureaucratic, political, and operational frameworks and has made key investments in new force structures.

In December 2017, the Ministry of Defense (MOD) announced a budget bill for fiscal year (FY) 2018 of 5.19 trillion Japanese yen (JPY) (U.S.\$45.76 billion), marking an increase for the sixth straight year. The new budget includes requests to make some key acquisitions and upgrades to the JSDF while also improving the management of the defense industry. The developments are taking place under the auspices of National Defense Program Guidelines (NDPGs), which identify air-sea supremacy, defense of remote islands, ballistic-missile defense, outer space and cyberspace, and large-scale disasters as the focal areas in which to strengthen the JSDF's "effective deterrence and response to various situations."¹

Furthermore, the Legislation for Peace and Security that came into effect in March 2016, combined with updated "Guidelines for Japan-U.S. Defense Cooperation," has made Japan more like a "normal" ally and the JSDF more like a "normal" defense organization.

From Japan's national security standpoint, the improvements in the JSDF's capabilities are essential. The current Medium Term Defense Program (MTDP) states that air and maritime supremacy is a "prerequisite for effective deterrence and response to various situations, including defense

Ryo Hinata-Yamaguchi is a visiting professor in the Department of Global Studies, College of Economics and International Trade, Pusan National University, Republic of Korea, and an adjunct fellow at the Pacific Forum, Honolulu, Hawaii. His research and publications focus on security in East Asia, military strategies, and transport security. He holds an MA in strategic studies from the Australian National University and a PhD in politics from the University of New South Wales–Canberra. He previously served in the Japan Ground Self-Defense Force (reserve).

Naval War College Review, Summer 2018, Vol. 71, No. 3

posture buildup in Japan's southwestern region."² Yet those developments also raise many questions concerning the actual readiness of the JSDF. This article assesses the state of Japan's defense planning and JSDF readiness, focusing on air and maritime capabilities. Specifically, it will highlight the many gaps among policy, force structure, and operational readiness. It also argues that the JSDF lacks the operational and tactical doctrines essential to enhancing its readiness in the air and maritime domains.

DEVELOPMENTS IN JAPAN'S DEFENSE PLANNING

Since its inauguration in 1954, the JSDF—a special institution, constitutionally and politically—has served to defend Japan. Initially, despite the Cold War threats looming in the region, actual developments in the JSDF were incremental. The defense white paper (now issued annually) and the NDPGs that outlined the concept of *basic defense capability* did not make their debuts until 1970 and 1976, respectively. Improvements in indigenous defense capabilities and strategies came slowly, largely owing to the low-profile treatment of defense matters under Japan's post–World War II Yoshida Doctrine, which emphasized economic development while relying on the U.S. security umbrella.³ Even with the demise of the post–Cold War order in the 1990s, developments in Japan's defense planning remained minimal; the second NDPG, issued in 1995, barely changed the JSDF's focus on homeland defense under the basic defense capability concept.

However, beginning in the late 1990s security challenges became more pressing for Japan, particularly with regard to North Korea's weapons-of-mass-destruction adventurism; growing concerns about China's military buildup; and transnational terrorism, as epitomized by the September 11, 2001, attacks. The new threats served as catalysts for Tokyo to reconfigure its defense posture, leading to the establishment of the Defense Posture Review Board in September 2001 and the Council on Security and Defense Capabilities in April 2004. Discussions led to the formulation of the new NDPG unveiled in December 2004, which focused on “defending Japan” and “preventing threats by improving the international security environment” through “i) Japan's own efforts, ii) cooperation with the allies, and iii) cooperation with the international community.”⁴ The new focus called for a shift from the basic defense capability concept to response-oriented, “multifunctional, flexible, and effective defense forces.”⁵ The 2004 NDPG essentially has served as the fundamental template for Japan's defense planning since that time, not only by providing the basis for building the nation's indigenous defense capabilities, but also by promoting its role with regard to alliance commitments and international security.

The reconfiguration of the JSDF further accelerated in the 2010s. Cumulative developments in the regional security environment, combined with a landslide

victory by the Democratic Party in September 2009, led to the issuance of the 2010 NDPG, which promised enhancement of “readiness, mobility, flexibility, sustainability, and versatility” to create a “dynamic defense force.”⁶ A notable element of the 2010 NDPG was its focus on acquiring amphibious capabilities that were deemed pivotal to defending the Southwest Island Chain.⁷

The return of the Liberal Democratic Party (LDP) to power in December 2012 led to further upgrades to Japan's defense planning, particularly the establishment of the National Security Council and issuance of the National Security Strategy (NSS). Under this new framework, the Japanese government issued the 2013 NDPG and the MTDP in December 2013; they called for a “dynamic joint defense force” that would emphasize air and maritime supremacy, as well as joint readiness, as the key imperatives for the JSDF. In essence, the NDPG issued in 2013 is an upgraded version of its predecessor, yet its greater significance lies in the fact that thenceforward Japan's defense planning took place under the auspices of the NSS.⁸ Then, in September 2015, the Diet passed the Legislation for Peace and Security. Its provisions included a statement of Japan's right to exercise collective self-defense and a legal basis for the JSDF to respond more effectively to so-called gray-zone situations.⁹

While the JSDF certainly has undergone significant changes since the 2004 NDPG, it is important to note that these developments did not represent a series of overhauls or 180-degree turns. Rather, they constituted a long-term, step-by-step embodiment of key agendas and desired capabilities in Japan's defense planning.

INCREASING JSDF READINESS

Japan remains in the midst of enhancing its force structure and capabilities and its operations readiness. While the JSDF's force structure enjoys many comparative advantages owing to its advanced technologies, important operational readiness weaknesses and shortfalls remain, creating a classic example of the force structure-versus-operational readiness dilemma that Richard Betts outlined in a 1995 book.¹⁰ Japan will need to remedy these weaknesses by ensuring the cost-effective use of current assets and the development of future capabilities to ensure both optimal force structure and operational readiness.

Force Structure Shortfalls

Enabled by Japan's robust industrial capacity and advanced technology, the JSDF force structure incorporates a high concentration of cutting-edge platforms and equipment. This has enabled Japan to improve the JSDF's capabilities in the areas prioritized in recent NDPGs by reducing significantly the country's land warfare-based firepower, instead strengthening its capabilities in the air and

maritime domains, as well as in joint operations; command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR); and ballistic-missile defense (BMD).

Notably, implementing the NDPGs over the past two decades has not required significant increases in personnel. Rather, improvements are taking place via efficiencies, such as streamlining the order of battle, making upgrades to enhance the longevity of existing platforms, and creating a networked system of assets.

The Maritime Domain. The Japan Maritime Self-Defense Force (JMSDF) possesses powerful blue-water capabilities, including sea-based missile defense. The new provisional budget set reflects the 2013 NDPG's proposal to increase the number of destroyers and submarines as part of the effort to form fourteen escort divisions and six submarine divisions. The JMSDF already has six Aegis-equipped destroyers (of the *Atago* and *Kongo* classes) and is expected to introduce a new class in coming years. The existing *Abukuma*, *Akizuki*, *Asagiri*, *Hatakaze*, *Hatsuyuki*, *Murasame*, *Shirane*, and *Takanami* classes, with the new *Asahi*-class destroyers, will provide the core of JMSDF surface-warfare capabilities, while the *Hayabusa*-class patrol boats complement Japan Coast Guard assets in dealing with spy vessels. The JMSDF submarine force comprises the *Oyashio* class and the air-independent-propulsion *Soryu* class (with the newer boats of the *Soryu* class being powered by improved lithium-ion-propulsion batteries), as well as investments in a new class of three-thousand-ton submarines for intelligence, surveillance, and reconnaissance (ISR) operations.¹¹

Antisubmarine warfare (ASW) is another major JMSDF strength, centered on the employment of SH-60K, P-3C, and P-1 aircraft. Japan's ASW capabilities have been enhanced significantly in recent years with the commissioning of the *Hyuga*-class and *Izumo*-class helicopter destroyers.¹² Furthermore, the MOD is pushing for the construction of 3,900-ton "compact-type hull" destroyers with characteristics close to the modularity concept of the U.S. Navy's Littoral Combat Ship, but with greater firepower and installable equipment for minesweeping and ASW capabilities.¹³

These various platforms and future acquisitions certainly will strengthen the JMSDF's capabilities. However, while Japan's maritime platforms have technological superiority, it remains debatable whether they are sufficient to deal with the changes the regional military balance is experiencing, both quantitatively and qualitatively. Such questions are likely to become increasingly pressing as the JMSDF expands its operational range beyond territorial waters to defend the country's critical sea lines of communication.

The Air Domain. Key developments are anticipated in the Japan Air Self-Defense Force (JASDF). In recent years, the F-15J's warning-and-surveillance equipment

and the air-to-air combat capabilities of the F-2 have been upgraded to enhance further the JASDF's airpower. The acquisition of additional aerial-refueling aircraft—such as the KC-767J equipped with the flying-boom system and potential investments in KC-46As to increase the endurance of combat air patrol operations and expand fighter-coverage areas—is a key development. In September 2016, Lockheed Martin rolled out the first of the JASDF's F-35A Lightning IIs. The first domestically assembled version, by Mitsubishi Heavy Industries, was unveiled in June 2017; it will replace the F-4J and the older fleet of F-15Js.¹⁴ The Acquisition, Technology, and Logistics Agency (ATLA) and Mitsubishi Heavy Industries also currently are testing Japan's first indigenous stealth jet technology demonstrator, known as the X-2. While many find the project exciting, it remains unclear whether the X-2 actually will become a successful fifth-generation JASDF fighter, given the high costs for research and development (R&D), as well as uncertainties over the potential for exports to attract revenue.¹⁵ Moreover, the X-2 project is reported to be delayed owing to defense-planning issues, raising further questions about the development and deployment of the aircraft.¹⁶ Despite the challenges, the acquisition of next-generation platforms is an essential step forward in enhancing the JASDF's air-superiority capabilities, particularly given that existing units are overburdened by operational demands.

The JASDF also has made substantive organizational improvements. In January 2016, the MOD established in Naha, Okinawa, the 9th Air Wing, which includes two F-15 fighter squadrons. The establishment of the new wing was driven by the exponential increase in scrambles (fighter intercepts) since 2010, peaking at 1,168 interceptions in 2016, 74 percent against Chinese aircraft and 26 percent against Russian aircraft.¹⁷ While the staging of the forward-deployed air units certainly enhances Japan's air capabilities, the rapidly increasing quality of adversary aircraft raises important questions about whether the transition into higher levels of readiness can be sustained against the growing burdens.

The JSDF's ISR capabilities have improved significantly. Previously, this area was viewed as a major vulnerability in light of the numerous ballistic-missile provocations and territorial waters incursions occurring since the late 1990s. In maritime reconnaissance, the P-1 and the SH-60J/K continue to serve as the main maritime patrol aircraft, while some P-3Cs will be upgraded to extend their operational life spans. For airborne early warning capability, the JASDF currently operates the airborne warning and control system E-767 and the E-2C, and soon will introduce the E-2D. With respect to unmanned aerial systems (UASs), under the current MTDP Japan is due to acquire three RQ-4 Global Hawks to enhance the JASDF's ISR capabilities. Important upgrades of ISR equipment installed in aircraft, destroyers, submarines, and radar systems, such as the FPS-7 fixed

warning-and-control radar system, also are being accomplished. These developments are essential to enhancing not only the JSDF's communications and precision navigation but also its ability to detect, track, and target enemy assets. Further improvements are being enabled by strong investments in the enhancement of outer space technologies for C4ISR and X-band communication.¹⁸

However, the issue with advancements in C4ISR capabilities is vulnerability to attacks from within the same domain, such as cyber and electromagnetic pulse (EMP) attacks. Moreover, there is uncertainty over whether the acquisition of and upgrades to ISR assets will be sufficient to keep pace with regional developments. In particular, Chinese and Russian modernization programs that incorporate stealth capabilities, as well as North Korea's diversification of its military capabilities (including a new class of submarines capable of launching ballistic missiles), pose new challenges for the JSDF. These diversifying challenges and the increased operational tempo will make it ever more vital for the JSDF to collect, process, and deliver decision-quality information in minimal time to enable it to take the right action.

The JSDF's BMD capabilities also are improving steadily. North Korea's launch of a Taepodong missile over Japan in August 1998 served as the primary catalyst for installing a joint Japan-U.S. BMD system in Japan. The JSDF has Aegis-equipped destroyers and Patriot missile batteries. However, North Korea's continuous developments and test launches of ballistic missiles have provoked anxieties over whether the current BMD systems are effective and sufficient. The FY2018 budget will make significant investments in further development of the JSDF's BMD capabilities, including joint Japan-U.S. development of the SM-3 Block IIA, to be carried by the Aegis-equipped destroyers, thereby expanding their coverage from three hundred to one thousand kilometers, and upgrades to the Patriot batteries by installing the PAC-3 missile segment engagement that boasts a range of over thirty kilometers. Japan also is moving forward with installation of the Aegis Ashore system to add another layer to its BMD capabilities and coverage.¹⁹

The Air and Maritime Domains. An important element of Japan's air and maritime defense is the JSDF's area-denial capabilities in the Southwest Island Chain. Currently, the JSDF is armed with Type 03 and Type 11 surface-to-air and Type 88 and Type 12 surface-to-surface missiles. More importantly, recent realignments have deployed antiship and antiaircraft missile batteries along the Southwest Island Chain to provide coverage for Japanese airspace and maritime territories in the East China Sea. The antiaircraft and antiship missiles are important not only to protect the offshore islands; they also should support and supplement JASDF and JMSDF units by easing their burden in dealing with intruders into Japanese territorial waters or onto Japanese islands, including the Senkakus. Certainly, the shore-based antiair and antiship missile batteries will be instrumental to

improving Japan's area-denial capabilities.²⁰ Realistically, however, the real effectiveness of the shore-based area-denial arrangements will depend heavily on how well they are able to integrate with the JSDF's air and maritime capabilities.

With regard to amphibious operations, steady improvements are being achieved in joint-operations capabilities for rapid deployment. In particular, the *Osumi*-class amphibious transport docks that accommodate air-cushion landing craft, as well as the *Hyuga*- and *Izumo*-class helicopter destroyers, with their ability to operate CH-47J transport helicopters and tilt-rotor V-22 aircraft, constitute a key component of the JSDF's amphibious capability. In fixed-wing airborne operations, the new C-2 transport aircraft boasts greater size, speed, and range than the current C-1. Taking advantage of such air and maritime transport assets, the Japan Ground Self-Defense Force (JGSDF) increasingly is focusing on mobile platforms such as the maneuver combat vehicle, the assault amphibious vehicle, and the light armored vehicle, as well as the upgraded Type 96 armored personnel carrier. Moreover, the MOD in March 2016 signed ten-year contracts with civilian charter vessels such as *Hakuou* and the high-speed catamaran *Nacchan World* to enhance the JSDF's logistical capabilities.²¹

While the modernization of the JSDF is making steady progress, questions remain regarding how far it will go. The next MTDP, for FY2019–23, is due in 2018, and the next NDPG is on the horizon. On December 15, 2017, Prime Minister Abe stated that the next NDPG will feature major changes while continuing to conform exclusively to defense-oriented principles; however, he provided no specific details.²² Naturally, there are strong demands for further capability improvements to meet the diversifying and increasing mission requirements and to offset the existing burdens. Future considerations could include whether to acquire not only next-generation models of existing assets but also land-attack cruise missiles (LACMs) and light aircraft carriers, and to revamp the *Izumo* class to accommodate vertical/short-takeoff-and-landing (i.e., V/STOL) aircraft.

However, careful consideration needs to go into pursuit of force structure investments; they should not be made merely for the sake of building a larger force armed with superior power-projection capabilities and firepower, particularly given the capital-intensive nature of air and maritime platforms. Poorly planned hardware acquisitions not only would have massive fiscal implications, but would create imbalances and potential negative path dependencies in the JSDF's overall force posture.

Instead, a significant part of the JSDF's force structure developments consists of the installation and upgrading of C4ISR equipment; command, control, communications, and intelligence (C3I) equipment; navigation equipment; automated systems; propulsion systems and engines; and precision armaments to strengthen the performance of existing platforms. The *Medium- to Long-Term*

Technology Outlook issued in August 2016 focuses on “unmanned technology,” “smart network technology,” “high-power energy technology,” and “improvement of functional performance of existing equipment.”²³ The FY2017 budget devotes JPY 24.5 billion (U.S.\$230 million) for R&D of “autonomous surveillance technology and sensor systems for unmanned underwater surveillance vehicles,” “cyber resilience technology,” and “future amphibious technology,” as well as new antiair and antiship missiles.²⁴ Much of the R&D focus is on missiles and munitions. The third supplementary budget of FY2016 also included one billion yen for research on rail guns.²⁵ The FY2018 budget includes JPY 8.7 billion (U.S.\$81.5 million) for next-generation warning-and-control radars, JPY 4.6 billion (U.S.\$43.1 million) for high-speed glide bombs, JPY 5.4 billion (U.S.\$50.6 million) for antiship guided missiles with longer range and stealth capabilities, JPY 8.7 billion (U.S.\$81.6 million) for research on high-power laser systems to be used against mortar rounds, JPY 6.9 billion (U.S.\$64.7 million) for next-generation medium-range air-to-air missiles, and JPY 700 million (U.S.\$6.6 million) for research on EMP weapons.²⁶ Advancements in these technologies could be significant game changers in the JSDF’s capabilities over the long term, particularly if they are enhanced further with the capacity to deal with heavier targets in the air and maritime domains.

More-sensitive questions arise regarding whether Japan will require offensive platforms to ensure effective defense and deterrence in the air and maritime domains. To date, the JSDF has focused on deterrence by denial rather than by punishment. Yet the absence of the ability to inflict strategic damage on aggressors raises questions regarding the effectiveness of Japan’s deterrence capabilities. In particular, North Korea’s continuous launching of ballistic missiles and its nuclear weapons tests have triggered debates over whether Japan needs to acquire capabilities for deterrence by punishment as well as denial. In March 2017, the ruling LDP recommended using assets such as cruise missiles to provide counterattack capabilities.²⁷ Discussions over acquiring LACMs have surfaced on occasion since the early years of the twenty-first century, particularly with the Tomahawk land-attack missile available as a means of attacking ballistic-missile launch sites (and vehicles). While the acquisition of LACMs still is being debated, in December 2017 Japan announced its decision to acquire the Joint Air-to-Surface Standoff Missile (JASSM-ER), the Long Range Anti-Ship Missile (LRASM) for the F-15J, and the Joint Strike Missile (JSM) for the F-35A.²⁸

Yet while the acquisition of LACMs may make sense from a deterrence point of view, the possibility poses dilemmas. On the one hand, whether counterstrike capabilities provide a sufficient deterrent is open to question. On the other hand, under the current legal framework, the whole concept of employing preemptive and preventive measures would spark intense debates regarding whether such

measures are too strategically offensive in nature and go beyond a “minimum self-defense capability.”²⁹

Mobilization and Operational Constraints

While the JSDF boasts many cutting-edge platforms, capabilities count only if they are truly operational. And there have been significant improvements to the JSDF's operational readiness in recent years, not only because of better logistics, exercises, and training, but also owing to the increasing number of Chinese and Russian incursions into Japan's airspace and territorial waters and North Korean missile launches. Still, the JSDF's operational readiness remains constrained, largely by legal and institutional factors rather than technical issues.

First, mobilization of the JSDF is constrained significantly by the positive-list bureaucratic and legal framework derived from the post-World War II constitution.³⁰ Under this framework, rules of engagement have been very tight, limiting the JSDF's ability to respond to contingencies in a timely manner. These constraints have been raised as a major issue over the years, but developments have been piecemeal. The enactment of the Armed Attack Situation Response Act in June 2003 focused on “invasions,” “ballistic missile attacks,” “guerrilla/special forces,” and “air attacks.” The legislation exempted the JSDF from civilian laws during contingencies to permit smoother mobilization. Measures issued in June 2004, based on the Armed Attack Situation Response Act, addressed factors ranging from civil protection to amending the Self-Defense Forces Act.³¹ The 2015 umbrella Legislation for Peace and Security introduced new measures as follows:³²

- Self-Defense Forces Act
- International Peace Cooperation Act
- Act Concerning Measures to Ensure Peace and Security of Japan in Situations That Will Have an Important Influence on Japan's Peace and Security
- Ship Inspection Operations Act
- Legislation for Responses to Armed Attack Situations
- U.S. and Others' Military Actions Related Measures Act
- Act Regarding the Use of Specific Public Facilities
- Maritime Transportation Restriction Act
- Prisoners of War Act
- Act for Establishment of the National Security Council
- International Peace Support Act

Yet many of the revisions largely embodied versions of the 2003 Armed Attack Situation Response Act, which Jeffrey Hornung and Mike Mochizuki correctly describe as an “expansion of the existing defense-oriented mandate rather than a mandate to exercise the right of collective self-defense.”³³

There were further adjustments to the MOD’s decision-making, intended to smooth bureaucratic pathways within the MOD by allowing the JSDF chiefs of staff to work on an equal footing with the directors general of the MOD bureaus and the secretariat in serving the minister of defense. Overall, significant improvements are evident. Yet, given the short-notice nature of contingencies that Japan faces, whether the current legal and structural framework can manage adequately the JSDF’s ability to respond effectively remains in question.

Indeed, the JSDF faces a central dilemma: How can it act effectively when deterrence fails? The “newly determined three conditions for the ‘use of force’” state that force may be used (1) “[w]hen an armed attack against Japan has occurred, or when an armed attack against a foreign country that is in a close relationship with Japan occurs and as a result threatens Japan’s survival and poses a clear danger to fundamentally overturn people’s right to life, liberty and pursuit of happiness”; (2) “when there is no appropriate means available to repel the attack and ensure Japan’s survival and protect its people”; and (3) the “use of force [is limited] to the minimum extent necessary.”³⁴ Dealing with aggression effectively yet with the minimum force necessary would be challenging, not only because of Japan’s highly constrained rules of engagement but also given its geographic proximity to other states in the region. For example, the JSDF must calculate whether the aggressor’s actions are hostile (or not), as well as the appropriate response measures against the aggressor, all within a tight time frame. Granted, the increasing number of incursions and other gray-zone situations has given the JSDF substantial experience with “hot” situations; however, to date these encounters have fallen short of actual combat situations. Hence, although Japan now is authorized to take a more proactive part in collective self-defense and other international security operations, the JSDF’s combat effectiveness after the first shot is fired remains untested—raising concerns about how well the JSDF would perform in actual armed conflict.

Second, further enhancing interbranch coordination and integration is essential.³⁵ While joint operations have been discussed since the formative years of the JSDF, actual developments did not take place until the 2004 NDPG.³⁶ The JSDF long has suffered from chronic stovepiping, to a level that obstructed coordination among the three branches. A key bureaucratic development took place in March 2006 with the reorganization of the Joint Staff Council into the Joint Staff, which now integrates and facilitates greater coordination among the chiefs of staff of the three JSDF services. But major readiness and experience deficits

within the JSDF remain. The lagging operational developments, combined with the nature of the security challenges, have resulted in imbalances in levels of combat readiness. For instance, the JASDF and JMSDF have conducted far more actual contingency operations than the JGSDF.³⁷

To address such issues and promote greater effectiveness and efficiency through coordination, the three branches of the JSDF have been working on upgrading their doctrines, to sharpen their roles in joint maneuvers, and on improving C3I systems, such as introducing cloud technology and tactical data-link capabilities.³⁸ Furthermore, under the current NDPG, some improvements are being seen in personnel aspects, such as the stationing of liaison officers in the headquarters of each branch.³⁹ Yet the development of true joint capabilities is still nascent, and requires not only the integration of key capabilities but improvements in the quality and frequency of joint training and exercises to operationalize genuine coordinated readiness.

Formulation of Operational and Tactical Doctrines

The series of legal and strategic documents in recent years, such as the NDPG, MTDP, "Guidelines for Japan-U.S. Defense Cooperation," and Legislation for Peace and Security, all have served as key ingredients to improve the JSDF's effectiveness and efficiency. Still, much practical work remains to be done to operationalize these developments so as to improve the JSDF's actual readiness.

Essentially, the recent changes have taken Japan's defense planning to a higher level, forcing the JSDF to develop further its operational and tactical doctrines to operationalize the capabilities enabled to date. The fluid security environment, the developments in Japan's defense policies, and the improvements in the JSDF's capabilities inevitably lead to diversification of scenarios and operations. For the JSDF to execute its tasks effectively and efficiently, it is critical to formulate its concept of operations and tactical doctrines, particularly given the relevant specific legal conditions and constraints relating to the rules of engagement, use of force, and actions permitted when using force. Hence the development of operational and tactical doctrines is essential to adding sharpness to and functional authority within the JSDF's defense planning, so as to improve operational readiness.

However, this task is easier said than done, as operationalizing capabilities is seldom a short-term challenge, nor is any given situation a static one. Rather, the process is a long-term, sophisticated one, replete with recurring adjustments that produce, operationalize, update, and maintain the myriad developments in the armed forces. The U.S. Joint Operational Access Concept (JOAC) is a classic example of how an operational concept involves three components: institutional commitment, conceptual alignment, and managerial initiatives.⁴⁰ While the

Japanese defense organization faces far fewer complexities than its U.S. counterpart, there is little doubt that Japan also will face long-haul, complex realities in systemizing doctrines to enhance the JSDF's readiness and capabilities. As Japan moves further toward ensuring air and maritime supremacy, new questions are bound to arise concerning the force generation, development, and employment necessary to improve JSDF readiness further.

Given the nature of recent JSDF doctrines as well as the major reconfigurations in Japan's defense planning, much remains to be done in improving the JSDF's operational and tactical doctrines. Apart from ballistic-missile defense and cybersecurity, the defense of Japan relies heavily on ensuring air and maritime supremacy. Granted, amphibious capabilities are a crucial deterrent in the defense of remote islands; however, one should not become overcaptivated by the JSDF's amphibious capabilities, as they essentially are emergency measures. As one defense official noted to the author, "A goalkeeper cannot be the only defense component."⁴¹ A scenario in which an aggressor already has encroached on Japan's shores, leading to mobilization of the JGSDF, would indicate the failure not only of Japan's deterrence but also of the first line of defense in the air and maritime domains. Given the nation's archipelagic nature and its other circumstances, supremacy in the air and maritime domains, through persistent denial and resilient response vis-à-vis threats, is essential to dealing with aggressors *before* they penetrate Japanese territory.

The air and maritime domains are intimately related. However, detailed discussions on an indigenous air-sea battle concept in Japan have not been conducted until recently.⁴² For instance, the basic JASDF doctrine was not issued until 2001. Considering the new emphasis on air and maritime supremacy, devising an air-sea battle concept would be pivotal to enhancing not only the operational readiness of the JASDF and the JMSDF but also the efficiency and effectiveness of maneuvers during major contingencies.

The doctrinal culture in the JSDF also needs further development, with particular emphasis on interoperability, both technically and procedurally. To sharpen further the JSDF's readiness to establish air and naval supremacy, the JSDF will need to work on shaping and maturing its air-sea battle culture and concept of operations.⁴³ Promotion of an indigenous air-sea battle mind-set would sharpen the JSDF's operational proficiency and readiness to meet various contingencies in the air and maritime domains. However, doctrines need tactical context, and building such aspects would be no easy task. While the JSDF is characterized by a high level of professionalism and expertise, those qualities are limited to the scope of existing assets and procedures. Thus, developing and applying new doctrines within the JSDF inevitably would take time.

The task of systemizing doctrines also faces challenges owing to the array of new technologies expected to join the JASDF and JMSDF inventories.⁴⁴ Formulating the concept of operations for the new technologies will require not only further studies but also the nurturing of expertise. The JMSDF Command and Staff College Strategic Study Group and the recently established JASDF Air Power Studies Center of Excellence in the Air Staff College play pivotal roles in conducting studies on developing and applying concepts such as *sea basing*, *combat clouding*, *space situational awareness*, and *reconnaissance strike complex* to enhance further the JSDF's air and maritime superiority. Furthermore, recruitment is experiencing innovative developments; the JSDF has begun employing direct-commission and noncommissioned officers with specialist backgrounds. The next step would be to bridge among the three branches by developing an integrated doctrine that emphasizes interoperability, connecting the capabilities of the three branches to maintain optimal joint readiness.

Admittedly, efforts to enable establishment of air and naval supremacy face their share of challenges, given that Japan is within China's antiaccess range—which could expand farther, considering developments in Chinese power-projection capabilities. While expansions to China's area-denial coverage would press Japan to adopt sharper policies, here too there are dilemmas. Several experts have noted that an area-denial approach could lead to “trench warfare in the sea”—a disadvantageous situation for Japan, which has limited quantitative and logistical capacity to withstand attrition, especially considering the high-tech nature of the JSDF.⁴⁵

Such problems have fueled discussions on the JSDF's tactical options, in pursuit of more-responsive, resilient ways to deal with threats. In particular, gray-zone situations create challenges to crisis management.⁴⁶ Given that Japan has treated crisis management as a domestic law-and-order problem rather than one of national defense, how can the JSDF respond to gray-zone situations? Moreover, the rules of engagement for armed action remain an open question.⁴⁷ While the Legislation for Peace and Security does grant the JSDF authority to mobilize against gray-zone challenges, Aihito Yamashita correctly argues that the occurrence of such scenarios is a clear indication that deterrence has failed—the aggressor has defied the status quo.⁴⁸ Owing not only to laws and capabilities but also to general regional discomfort from neighboring states, the JSDF remains self-limited to exercising deterrence by denial, as opposed to deterrence by punishment. The challenges indicate that the key agenda for Japan must be to work on more proactive deterrence and crisis-management measures, consistent with current laws and capabilities. Such a task, however, would involve not only

conducting debates within the government but also addressing the dilemmas inherent in the formulation of JSDF doctrines.

Political and Bureaucratic Facilitators

While further strategic and operational alignments are expected to improve JSDF readiness, these developments will face the sorts of strategic, political, economic, and bureaucratic questions that create defense-planning dilemmas for the Japanese government.

First, despite the growing awareness of mounting national security concerns, Japan's defense planning often becomes embroiled in domestic political intrigues. While it was Japan's recognition of increasing threats that instigated recent changes, it was the growing recognition by Japanese citizens of national security issues and the importance of the Japan-U.S. alliance that provided the government with sufficient political cover to implement the developments. Still, the tense political debates over the Legislation for Peace and Security passed in 2015 were yet another example of how defense developments in Japan often are hamstrung by overpoliticization, poor conceptualization, and poor "marketing" of security matters. The contents of the security bills are logical and essential to improving Japan's defense capabilities, yet arguably they were a significantly watered-down alternative to amending article 9 of the constitution.⁴⁹ The heated political conflicts over the passing of the security bills not only highlighted the political fault lines affecting defense matters but also depleted Prime Minister Abe's political capital.⁵⁰ Such problems often exhaust the Japanese government's political-bureaucratic capital and its bandwidth for coming up with innovative and pragmatic solutions to pressing national security developments. The political environment in Japan needs to move beyond yes-or-no partisan debates to proper discussions of the means needed to achieve and sustain national security.⁵¹ Abe's latest proposal regarding constitutional amendment—keeping article 9 but adding a paragraph identifying the JSDF as the nation's defense organization—is quite moderate, yet debates over national security remain controversial.⁵²

Second, there are budgetary constraints on the financing of future major force and capability enhancements. Even though Japan has increased its defense outlays steadily to meet its readiness needs, issues remain. The current budget devotes 43.5 percent to "personnel and provisions expenses," while 41.1 percent is allocated to "base measures, etc.," which includes items such as community grants and host-nation support, as well as rent and compensation costs.⁵³ While high operational and maintenance costs are no surprise, Japan's defense budget remains highly constrained, the legacy of a previous, self-imposed 1-percent-of-GDP limit for defense expenditures. As Yuki Tatsumi argues, the recent budget increases mostly constitute an effort by the Japanese government to make up

for the impact of defense budget cuts imposed between FY2003 and FY2012.⁵⁴ Prime Minister Abe has stated that (at least under the current administration) the 1-percent-of-GDP cap no longer applies, owing to the imperative to strengthen the JSDF, and that capability demands will call for increases beyond that threshold.⁵⁵ Yet even so, realistically it will be challenging for the defense budget to experience major increases, particularly given Japan's current political-economic climate, with its other crucial agendas, such as "Abenomics" and social security programs. As long as Japan's defense budget maintains these current constraints, and particularly given the high costs of currently programmed equipment and munitions and domestic investments in R&D, future developments will need to take place through adoption of the most cost-efficient measures. Otherwise, it would be necessary to refine and, in some cases, to divest current assets to make budgetary space for high-priority investments.

Third, there are questions about future developments in Japan's military-industrial complex. The recently established ATLA will oversee key organs, such as the Technical Research and Development Institute and the Equipment Procurement and Construction Office, to ensure centralized management and processing of defense-related investments.⁵⁶ As part of the ATLA's Japan Defense Technology Strategy to "promote strategic initiatives to ensure technological superiority," the budget has highlighted projects such as a funding program named the Innovative Science & Technology Initiative for Security, as well as improvements in project-management programs and cooperation regarding defense equipment and technology.⁵⁷ The new measures purport to streamline and enhance the management of procurements and defense-related R&D. Yet, despite the progress, questions remain regarding whether actual production from the domestic defense industry will keep pace with the JSDF's growing capability demands, and whether the goods produced will be affordable within the tight budget constraints.⁵⁸ The easing of statutory arms-export restrictions will provide greater rationales for developing Japan's defense industry as a means of earning foreign revenue; however, while Japan's technologically advanced platforms may attract interest, its arms exports are hampered by their high price tags and the country's relatively recent entry into the defense market.⁵⁹

The Regional Dimensions

The impact of JSDF developments will depend on the nature of those developments and the various responses thereto of countries in the region. China and North Korea will tend to view any improvement in JSDF capabilities as a threat, leading to various response measures, which in turn will raise new questions for Japan's defense planning. Yet the largest question concerns Japan's role in the alliance with the United States and Japanese participation in other international

security initiatives. JSDF developments certainly will allow the Japan-U.S. partnership to operationalize better the contents of the 2015 “Guidelines for Japan-U.S. Defense Cooperation.” For example, the alliance continues to conduct complex missile-defense and ASW operations. Going forward, improvements in JSDF readiness would enhance significantly the alliance’s combined and coordinated capabilities and operations in the air and maritime domains.⁶⁰

Still, there is much to do, particularly in further enhancing ISR capabilities, interoperability, and the planning and conducting of combined maneuvers.⁶¹ Moreover, developments also are needed in the formation of “Japan+U.S.+X” trilateral (or larger) partnerships, with each arrangement having specific value in its own context; trilateral cooperation with the Republic of Korea is the most important and urgent to be considered. While political sensitivities long have undermined the prospects for partnership between Seoul and Tokyo, capability-based trilateral cooperation is essential for regional security and stability.⁶² Cooperation with select Southeast Asian states in the form of maritime security and capacity-building efforts also has shown signs of promise in recent years and should be enhanced. Japan owes its success in enhancing cooperation with its Southeast Asian partners to its contributions to the region through noncombat military operations.⁶³ Such efforts constitute evidence of the significant development of Japan’s international security role and reflect major progress in Tokyo’s relations in the Asia-Pacific.

Of course, as in other areas, there are dilemmas here. While growing challenges in regional security press Tokyo to adopt more-proactive defense postures and roles, developments toward an overtly offensive posture may trigger hesitation among Asia-Pacific states to work with Japan, particularly given the historical animosities that persist. And the larger issue is that developments in Japan’s defense posture could be perceived as changing the status quo—a factor that would impact the partner governments’ relations with China, including by weakening their claims of participating in strictly defensive-oriented cooperation for the sake of regional stability.

The issues at stake warrant that Japan should engage in additional constructive initiatives with regional stakeholders to provide assurances and ensure sustainable reconciliation. For much of its history, the “Asia component” has been a weakness in Japan’s diplomacy.⁶⁴ One important prerequisite for improving this area would be for Japan to minimize the profile of politicized and nationalistic historical issues to prevent critics from associating them with the essential present-day developments in the JSDF. Furthermore, Japan must continue to strengthen and promote the role it plays in regional dialogues (e.g., on arms control, export controls, codes of conduct, nontraditional security) and multilateral efforts to institutionalize cooperation and practice preventive diplomacy. Thus,

to prevent further deterioration in regional security, Japan's developments in defense readiness must be combined with continued efforts to expand opportunities for regional cooperation.

Regardless of whether the Japanese constitution is revised, the JSDF's essentially defensive orientation toward ensuring Japan's security will remain unchanged. Developments to date have not altered Japan's defense-oriented posture, and certainly have not revived the militaristic policies of the imperial years. Rather, recent improvements have focused on smoothing the operation of the mechanism that allows Japan to exercise the necessary capabilities for self-defense within the nation's strategic, political, and legal frameworks. Moreover, the developments further confirm that the JSDF is strong when measured within a context of close coordination with the United States and other like-minded states.

Still, Japan's defense planning is at a crossroads. While significant progress has been made in improving JSDF combat power and readiness, as reflected in the series of policy developments and upgrades of JSDF capabilities and force structure, it will be some time before these can be translated into actual ability to achieve air and maritime supremacy, particularly given the nascent nature of many operational and tactical doctrines, as well as continuing readiness challenges. And even if air and maritime supremacy is achieved, this is only part of the solution to the full range of Japan's defense challenges. Importantly, while Japan will need to refine further its operational and tactical doctrines to enhance the JSDF's future readiness, it also will need to harmonize its defense developments with constructive political processes and diplomatic measures if it is truly to ensure the country's national security.

NOTES

- The author thanks Carl W. Baker, Zack Cooper, Swee Lean Collin Koh, and Tetsuo Kotani, as well as anonymous officials from Japan and the United States, for their insightful comments. The views and opinions expressed in this article are those of the author and do not necessarily reflect the official policy or position of any government or related organization.
1. Japan Ministry of Defense [hereafter JMOD], "National Defense Program Guidelines for FY2014 and Beyond," December 17, 2013, p. 13, available at www.mod.go.jp/.
 2. National Security Council and Cabinet, "Medium Term Defense Program (FY2014–FY2018)," December 17, 2013, available at www.mod.go.jp/.
 3. See Christopher W. Hughes, *Japan's Re-emergence as a "Normal" Military Power*, Adelphi Papers 368–69 (Oxford, U.K.: Oxford Univ. Press, 2004), and Yoshihide Soeya, *Nihonno Midoru Pawa Gaikou* [Japan's middle power diplomacy] (Tokyo: Chikuma Shinsho, 2005).
 4. Japan Defense Agency, "Defense of Japan 2005," 2005, p. 22, available at www.mod.go.jp/.

5. *Ibid.*, pp. 22–23.
6. Security Council and Cabinet, “National Defense Program Guidelines for FY2011 and Beyond,” December 17, 2010, p. 40, available at www.mod.go.jp/.
7. Justin Goldman, “An Amphibious Capability in Japan’s Self-Defense Force: Operationalizing Dynamic Defense,” *Naval War College Review* 66, no. 4 (Autumn 2013), pp. 117–34.
8. Noboru Yamaguchi, “Evolution of Japan’s National Security Policy under the Abe Administration,” in *Asia’s Alliance Triangle: US–Japan–South Korea Relations at a Tumultuous Time*, ed. Gilbert Rozman (New York: Palgrave Macmillan, 2015), pp. 113–15.
9. JMOD, *Defense of Japan 2017* (Tokyo: 2017), pp. 237–60.
10. Betts explains the dilemmas in defense planning by pointing to the conflicts and trade-offs between force structure and operational readiness, as well as the complex questions concerning mobilization readiness. See Richard K. Betts, *Military Readiness: Concepts, Choices, Consequences* (Washington, DC: Brookings Institution, 1995).
11. Kosuke Takahashi, “Japan to Equip Future Soryu-Class Submarines with Lithium-Ion Batteries,” *IHS Jane’s Defence Weekly*, February 27, 2017, www.janes.com/.
12. Tetsuo Kotani correctly argues that helicopter destroyers for ASW have been a long-cherished dream for the JMSDF. See Tetsuo Kotani, “Herikuubo *Izumo* Dounyuu No Imi: Nihonno Anzenhosyou Senryaku Niokeru Jyuuyousei” [The significance of the helicopter carrier *Izumo*: Significance for Japan’s security strategy], *Wedge Infinity*, August 20, 2013, wedge.ismedia.jp/.
13. JMOD, *Defense of Japan 2016* (Tokyo: 2016), p. 180.
14. At present, Japan has ordered forty-two F-35As, with thirty-eight of those to be built by Mitsubishi Heavy Industries.
15. See Richard A. Bitzinger, “The X-2 ATD-X: Japan’s Last Chance Fighter Jet?,” RSIS Commentary 75, *RSIS*, April 6, 2016, rsis.edu.sg/, and Yoshifumi Uesaka, “Stealth Jet Program Opens Door to Broader Horizons,” *Nikkei Asian Review*, February 1, 2016, asia.nikkei.com/.
16. Tim Kelly and Nobuhiro Kubo, “Exclusive: Japan to Delay Multi-billion Dollar Fighter Jet Development—Sources,” *Reuters*, November 12, 2017, reuters.com/.
17. JMOD, Joint Staff, “Statistics on Scrambles through FY2016,” news release, April 13, 2017, available at www.mod.go.jp/.
18. JMOD, *Defense Programs and Budget of Japan—Overview of FY2018 Budget Bill* (Tokyo: Defense Planning and Programming Division, December 2017), p. 14, available at www.mod.go.jp/.
19. *Ibid.*, p. 12.
20. Toshi Yoshihara, “Going Anti-access at Sea: How Japan Can Turn the Tables on China,” *Center for a New American Security*, September 12, 2014, www.cnas.org/.
21. JMOD, *Defense of Japan 2016*, p. 360.
22. “Meeting of Managing Editors of the Member Companies of Kyodo News,” *Prime Minister in Action*, December 15, 2017, kantei.go.jp/.
23. Acquisition, Technology & Logistics Agency, *Fiscal Year 2016 Medium- to Long-Term Technology Outlook* (Tokyo: August 2016).
24. JMOD, *Defense Programs and Budget of Japan—Overview of FY2017 Budget* (Tokyo: Defense Planning and Programming Division, August 2016), p. 42, available at www.mod.go.jp/.
25. *Ibid.*, pp. 32, 56.
26. JMOD, *Defense Programs and Budget of Japan—Overview of FY2018 Budget Bill*, p. 42.
27. Liberal Democratic Party, “Dandou Misairu Boueino Jinsokukatsu Bappontekina Kyoukani Kansuru Teigen” [Recommendation on the rapid and fundamental strengthening of ballistic-missile defense], *Liberal Democratic Party of Japan*, March 30, 2017, jimin.jp/.
28. JMOD, *Defense Programs and Budget of Japan—Overview of FY2018 Budget Bill*, p. 5.
29. For more on the policy of minimum self-defense capability, see JMOD, *Defense of Japan 2017*, pp. 212–15.
30. *Positive-list* is a term used to describe a set of rules and protocols that prescribe only what one is permitted to do. Most militaries have *negative-list* proscriptions regarding what one cannot do. Naturally, a positive-list

- framework is more rigid and stringent than a negative-list one, as only a select range of options is available.
31. JMOD, *Defense of Japan 2014* (Tokyo: 2014), pp. 219–21.
 32. JMOD, *Defense of Japan 2017*, pp. 241–54.
 33. Jeffrey W. Hornung and Mike M. Mochizuki, “Japan: Still an Exceptional U.S. Ally,” *Washington Quarterly* 39, no. 1 (April 2016), p. 98.
 34. JMOD, *Defense of Japan 2017*, p. 213.
 35. Grant Newsham, Ryo Hinata-Yamaguchi, and Swee Lean Collin Koh, “Japan Should Steal a Strategy from China’s Playbook,” *National Interest*, May 11, 2016, nationalinterest.org/.
 36. Akihiro Sadoh, *Jieitai Shiron: Sei-Kan-Gun-Min No 60-Nen* [Historical studies on the JSDF: 60 years of governance, bureaucracy, military, public] (Tokyo: Yoshikawa Kobunkan, 2014), pp. 166–67.
 37. The JGSDF’s actual operations essentially have been limited to UN peacekeeping operations, the Iraq Reconstruction and Support Group, and humanitarian assistance / disaster relief efforts.
 38. JMOD, *Defense Programs and Budget of Japan—Overview of FY2017 Budget*, p. 12.
 39. JMOD, “National Defense Program Guidelines for FY2014 and Beyond,” p. 19.
 40. U.S. Defense Dept., *Joint Operational Access Concept (JOAC)*, Version 1.0 (Washington, DC: January 17, 2012).
 41. Anonymous senior official, interview by author, May 1, 2015.
 42. Takashi Genda comments that the topic of air-sea battle did not appear high on the agenda during the immediate post-Cold War era, given the decline of the Soviet Union and the state of China’s littoral naval capabilities at the time. See Takashi Genda, “Eapawa-Kenkyuuno Rekishiteki Keii Wo Furikaeru” [Reviewing the historical developments in airpower studies], *Ea Pawa Kenkyuu* [Research on airpower], 2014, p. 119.
 43. For example, the improvements in the JGSDF’s amphibious capabilities are facilitated by the strengthening of the amphibious-warfare culture.
 44. For example, the acquisition of UASs would require working out the balance between UASs and conventional platforms. See Ryoji Shirai [Col., JASDF], *Incorporating Unmanned Aerial Systems into the Japan Air Self-Defense Force* (Washington, DC: Brookings Institution, September 25, 2014), p. 37.
 45. Concerning the discussion on antiaccess/area-denial and air-sea battle becoming “trench warfare in the sea,” see Steven Stashwick, “A New War in the Pacific Could Be ‘Trench Warfare’ at Sea,” *The Diplomat*, August 18, 2016, thediplomat.com/.
 46. See Vincent Alcazar, “Crisis Management and the Anti-access/Area Denial Problem,” *Strategic Studies Quarterly* 6, no. 4 (Winter 2012), pp. 42–70.
 47. Aihito Yamashita, “Crisis Management as a Means to Respond to ‘Gray-Zone Situations,’” *Ea Pawa Kenkyuu* [Research on airpower], 2016, pp. 38–45.
 48. *Ibid.*, p. 45.
 49. Article 9 of the Japanese constitution reads: “Aspiring sincerely to an international peace based on justice and order, the Japanese people forever renounce war as a sovereign right of the nation and the threat or use of force as means of settling international disputes.
“In order to accomplish the aim of the preceding paragraph, land, sea, and air forces, as well as other war potential, will never be maintained. The right of belligerency of the state will not be recognized.” Constitution of Japan, art. 9, available at japan.kantei.go.jp/.
 50. Jeffrey W. Hornung, “Abe on His Heels,” *Foreign Affairs*, September 18, 2015, foreignaffairs.com/.
 51. See Yoshihide Soeya, *Anzenhosyou Wo Toinaosu* [Rethinking about security] (Tokyo: NHK Shuppan, 2016).
 52. Yuki Tatsumi, “Abe’s New Vision for Japan’s Constitution,” *The Diplomat*, May 5, 2017, thediplomat.com/.
 53. JMOD *Defense Programs and Budget of Japan—Overview of FY2017 Budget*, p. 48.
 54. Yuki Tatsumi, “Japan Eyes ‘Counter-attack’ Capability against North Korea Missile Threat,” *The Diplomat*, March 31, 2017, thediplomat.com/.
 55. “Japan PM Abe Says No Defense Budget Ceiling as 1 Percent to GDP,” *Reuters*, March 1, 2017, reuters.com/.

56. Yuki Tatsumi, "The Japanese Defense Reform No One Is Talking About," *The Diplomat*, May 16, 2015, thediplomat.com/.
57. JMOD, *Defense Programs and Budget of Japan—Overview of FY2017 Budget*, pp. 32–36.
58. See Hiroyuki Sugai, *Japan's Future Defense Equipment Policy* (Washington, DC: Center for 21st Century Security and Intelligence, Brookings Institution, October 2016), available at www.brookings.edu/, and Heigo Sato, "Japan's Arms Export and Defense Production Policy," *CSIS*, 2015, csis.org/.
59. Japan has faced problems in recent years, such as a failed bid to sell submarines to Australia and slow progress in selling the U-2I amphibious aircraft to India. See Mina Pollmann, "The Trouble with Japan's Defense Exports," *The Diplomat*, October 2, 2015, thediplomat.com/.
60. See Sugio Takahashi, "Counter A2/AD in Japan-U.S. Defense Cooperation: Toward 'Allied Air-Sea Battle,'" Futuregram 12-03, *Semantic Scholar*, April 18, 2012, pdfs.semanticscholar.org/.
61. See Richard L. Armitage and Joseph S. Nye Jr., *The U.S.-Japan Alliance: Anchoring Stability in Asia* (Washington, DC: Center for Strategic & International Studies, 2012), and Michael J. Green and Zack Cooper, *Strategic Japan: New Approaches to Foreign Policy and the U.S.-Japan Alliance* (Washington, DC: Center for Strategic & International Studies, 2014).
62. Ryo Hinata-Yamaguchi, "Completing the U.S.-Japan-Korea Alliance Triangle: Prospects and Issues in Japan-Korea Security Cooperation," *Korean Journal of Defense Analysis* 28, no. 3 (Fall 2016), pp. 383–402.
63. Takuya Shimodaira [Capt., JMSDF], "The Japan Maritime Self-Defense Force in the Age of Multilateral Cooperation: Nontraditional Security," *Naval War College Review* 67, no. 2 (Spring 2014), p. 53.
64. See Soeya, *Nihonno Midoru Pawa Gaikou*.