Innovate or Enervate:
US-Japan alliance collaboration

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Based in Honolulu, the Pacific Forum CSIS (www.pacforum.org) operates as a non-partisan, non-profit foreign policy research institute affiliated with the Center for Strategic & International Studies (CSIS) in Washington, D.C. The Forum's programs encompass current and emerging political, security, economic, and international relations issues through analysis and dialogue undertaken with academic, government, and industry leaders from across the Pacific Rim. Founded in 1975, it collaborates with a broad network of research institutes from around the region, drawing on Asian perspectives and disseminating project findings and recommendations to opinion leaders, governments, and members of the public around the world.

Sasakawa Peace Foundation

The Sasakawa Peace Foundation (SPF) was founded on September 1, 1986 and is based in Tokyo, Japan. The mission of SPF is to contribute to the welfare of humankind and the sound development of the international community, and thus to world peace, by conducting activities fostering international understanding, exchange, and cooperation, as well as efforts to promote these activities. Their main activities include undertaking surveys and research, developing human resources, inviting and dispatching personnel, organizing international conferences and other forums, and conducting other activities fostering international understanding, exchange, and cooperation, as well as to collect, disseminate, and propagate information in order to carry out these and other activities necessary to accomplish the Foundation's mission.

Sasakawa Peace Foundation Fellows

In 2010, the Pacific Forum CSIS with generous support from the Sasakawa Peace Foundation established the SPF Fellowship Program to nurture the next generation of specialists who are committed to broadening and strengthening the Japan-US alliance. Through a combination of resident and non-resident fellowships, the Pacific Forum CSIS reaches out to emerging leaders in our two countries to reinvigorate the security relationship. SPF Fellows develop and apply innovative and creative solutions to 21st-century problems. They focus on underdeveloped aspects of the relationship to ensure that the Alliance is ready to deal with current and future problems. By recognizing and addressing a wider range of issues and actors that are part of this partnership, SPF Fellows ensure the resilience and effectiveness of the Alliance into the future.

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Acknowledgements

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Introduction

By Nicole Forrester

Post-war Japan has made good international citizenry its *raison d'être*. Whether by design or concordance, it has aligned its interests (almost) seamlessly with those of the United States. It serves the US well to have an effective, well-resourced ally acting as a rules promoter, guardian of the global commons, and partner to likeminded and emerging democracies.

Few would then question the centrality of the US-Japan alliance to US and Japanese interests. It is the bedrock of the diplomatic and military cooperation as well as the significant, and growing, economic partnership.

In light of the US rebalance to the Asia-Pacific region, the strategic import of the alliance is even greater. The rebalance hopes to deliver deeper engagement allowing the US to contribute to, and benefit from, the region's prosperity while maintaining influence over its evolving security environment.

As a function of US foreign policy, it's appropriate that the rebalance strategy fits securely within the alliance dynamic. For the alliance to fully realize its potential as a pillar for the rebalance, two issues need to be addressed. First is the destabilizing relationship cycle of precipitous progress followed by steady erosion needs to stop. Second, resources must be reoriented toward nonmilitary challenges. In essence, the alliance must innovate or risk enervation in a rebalanced region.

The alliance needs to enhance its resilience to better manage daily relationship annoyances through diversification and innovation. Many experienced US-Japan hands will insist that alliance modernization pre-dates the "pivot" by 20 years or so, which is true. And the relationship is in good shape.

Despite alliance modernization, resources are still clearly focused toward military challenges. Japanese and regional voices reiterate their desire for the US to have an enduring, visible military presence. It provides reassurance and deterrence, helping to maintain regional peace and security. Skeptics toward the sustainability of the rebalance broadly and the high-level military engagement specifically, could be muted by alliance diversification that adds credence to the rebalance strategy beyond mil-to-mil cooperation.

In a multipolar, globalized environment, nonmilitary issues are equally important to regional prosperity and security. The rebalance strategy – with its economic, diplomatic, and military dimensions – recognizes this reality. Diversification of and innovation in the US-Japan alliance provides a mutually reinforcing mechanism for the rebalance. It could also provide a yet unfulfilled public relations boon.

Rebalance or not, to remain relevant in the region – delivering the best product - US-Japan ties must place a greater emphasis on strengthening their non-military engagement. This demands transformation across the partnership.

Based on the belief that measures beyond mil-to-mil cooperation can be employed to strengthen regional peace, stability, and prosperity, such innovation has been the focus of Sasakawa Peace Foundation Fellows.

Launched in 2010, the Sasakawa Peace Foundation Fellows was designed to bring new blood, new ideas, and new energy into a critical partnership that many, especially young Americans and Japanese, increasingly took for granted.

Fellows have explored opportunities for expanded cooperation among the US and Japan in fields and functional areas less directly related to traditional security cooperation. Here they have outlined a way forward by identifying areas for new and enhanced cooperation, proposing initiatives feature collaborations with non-military sectors (including business) on emerging security issues such as space, cyber, and biosecurity, as well as ensuring stable energy supplies through resource development and production projects. Other recommendations look to use military resources in innovative ways, such as building regional humanitarian assistance and disaster relief capacity.

Diversification cannot be just about what the alliance does, but how it is done and who chosen partners are. The Asia-Pacific security environment threats are increasingly transnational, a development that throws into sharp relief the limits on the capacity of bilateral US-ally relationships to counter regional security threats, traditional or otherwise. Effective alliance management demands that the US work with Japan and its other regional allies (and they, with each other) in a networked manner.

For Japan, a networked alliance approach led by innovations in the Japan-US relationship would afford influence in the way the US manages, expands and utilizes its regional alliances. This could help satisfy Japan's dual aspirations: movement toward and recognition of a more equal partnership, and opportunities to work even more closely with UA allies and other like-minded democracies throughout the region.

Innovation in functional areas will not only buttress the bilateral Japan-US relationship. Cooperation in areas beyond traditional hard security with new partners in the region could lead to the establishment of new, and strengthening of existing, political, military and institutional ties.

As a Pacific nation, US prosperity and security are tied to the Asia-Pacific region. A vibrant, resilient and diverse Japan-US alliance strengthens each partner as well as the rebalance. It also serves the interests of those looking to maintain the international order status quo and the regional peace and stability it has delivered for the past 70 years.

Beyond the Pacific:
A Proposal for US-Japan-UK Trilateral Cooperation

By John Hemmings, Mihoko Matsubara,
Masamichi Minehata, and Victoria Tuke

This paper proposes a new strategic trilateral relationship between the United States, Japan, and the United Kingdom. These three powers constitute two of the most powerful defense alliances in the international system, and the three share an increasing number of common security concerns. Despite this, there has been little interaction between the three on security issues in a trilateral framework.

The United States has a long history of developing and maintaining a network of alliances around the globe. Most, if not all, date back to the post war period and find their genesis in stabilizing the postwar international system and in hedging against Soviet expansionism and the onset of the Cold War. As these original functions have withered, the US alliance system has undergone bouts of regeneration and redefinition, as Washington and its allies have seen benefits in maintaining security ties.

The global order is undergoing a period of intense transition. First, the concentration of global economic and political power is moving away from the West toward Brazil, Russia, India, and China (the BRICs), particularly the latter two states as rising powers. While there are great benefits to humanity over the shift of this capital, questions over global governance institutions and their transformation, as well as shifts in military power, add an element of instability to the global system. Second, new technologies and social media are transforming politics and the power of subnational actors. Third, the revolution in transportation and shipping technologies and their associated costs from the 1960s onward, and their computerization and automation, have made the global economy a maritime-based one. This brings actors into closer contact, both at the state and nonstate level.

It is the contention of this paper that the old alliance structures that linked narrow US security objectives to global security concerns – such as NATO in the Atlantic and the US 'hub and spokes' system in the Pacific – require updates and in some cases, augmentation. This is not a new observation: since the end of the Cold War a succession of US policymakers have made changes to the old alliance structure, implementing ad hoc structures – such as the Proliferation Security Initiative (PSI) and the US-Japan trilateral relationships with Australia, South Korea, and more recently, India. In a sense, US policy-makers are reacting to the fluid state of global politics by remolding US security institutions at home and abroad. Manuscript

Extra-regional Alliance-building

Alliances have traditionally been regional, with bilateral and multilateral relationships developing around local threat perceptions. Until the end of the Cold War, the US alliance system fell easily into this framework, with the exception of SEATO,

which included European states in what was a predominantly Asian-focused alliance. Following the terrorist attacks on Sept. 11, US policymakers began to re-envision the alliance system for the newly conceived Global War on Terrorism (GWOT). The success of the first Iraq War in 1991 had indicated that the US allies were willing and able to operate extra-regionally to help with US global security objectives. This was further amplified by the involvement of Asia-Pacific allies in Operation Enduring Freedom and reconstruction activities in Iraq. The fact that US Department of Defense planners could at times request and anticipate troop contributions from Turkey, South Korea, Japan, Mongolia, the UK, and Denmark among others is a testament to this trend.

The aim of this paper is to examine the trilateral structure and look at the benefits of expanding it from a regionally oriented body to a globally oriented structure. The trilateral as a type of alliance structure is not an entirely new one, but its current incarnation dates to the post-9/11 period, when the US sought new partnerships in its campaign on the GWOT and mechanisms for added stability in the Asia Pacific. The US-Japan-Australia Trilateral Strategic Dialogue (TSD) is arguably the most advanced example of a trilateral developed in recent times.[1] Initiated in sub-Cabinet-level talks in 2002, it was then upgraded to 'strategic dialogue' level in May 2005 under the Bush administration, and has been maintained by the Obama administration under the auspices of the US 'rebalance' to the region. Trilateral conversations also exist between the US, Japan, and South Korea, as well as the US, Japan, and India.

This paper argues the US, Japan and UK should develop a trilateral dialogue. The trilateral structure is flexible, bringing with it a level of adaptability not found in larger alliance structures, where consensus rules often act as a break on alliance adaption. Given the range of common security concerns, military interoperability, and developed alliance relationships, the UK and Japan are suited to a global trilateral strategy forum (TSF). The core functions of a US-Japan-UK trilateral strategy forum would be to more efficiently coordinate the efforts of each in nontraditional areas of security. While there are a multitude of areas for possible cooperation between the three, the authors of this paper have focused on three areas considered to be 'low-hanging fruit': cybersecurity, stabilization, and biosecurity. We believe that track 1.5 dialogues in these three areas could lead to close cooperation between the government agencies responsible for these areas.

While the development of US-Japan-UK activities seems to run against the 'tyranny of geography,' this is no longer as true as it once was. First, the limits imposed by geography are lessening, with maritime trade and the centrality of South Asia spanning the once-formidable distances. The Gulf of Aden and Afghanistan may be far from London, Tokyo, and Washington, but both are central to the security of all three. Second, geography as a concept is less useful in a number of key security areas. This paper for example considers biosecurity and cybersecurity, in which geography plays little or no part. Such a grouping could prove an essential tool in the security objectives of the United States and its allies.

[1] This is because the links between the two non-allies, Japan and Australia, have become increasingly institutionalized with an MOU on peacekeeping and a (military) information-sharing agreement.

ALIGNING IN THE ETHER: TRILATERAL CYBERSECURITY COOPERATION[2]

The cyber realm is part of a new security framework, extra-regional in nature and in threat. It is therefore fitting that real world allies should create a cyber-partnership to complement their cyber interests. Indeed, all three states have recently launched bilateral cybersecurity dialogues. Since they have many cybersecurity interests in common, and the borderless nature of cyber-threats requires international collaboration, this paper argues that it is more efficient to collaborate trilaterally.

Recommendations:

- Japan, the UK, and the US should develop a common definition on what constitutes "use of force" in order to legitimize and prompt proportional and necessary retaliation. They should also seek international advocates for an agreed approach.
- Japan, the UK, and the US should reach a consensus on the area of responsibility (AOR) and a watch list to cover counter cyber-espionage. The three governments will review the AOR and the watch list on a yearly basis to reflect the dynamics of cyber-threats.
- Japan, the UK, and the US should establish points of contact at relevant ministries or departments to share information on cyber-threats, and also a secure communication method to exchange such information.
- Japan, the UK, and the US should share information on the methodology of cyber-attacks and alerts on ongoing or potential threats to minimize damages in a timely manner.
- Japan, the UK, and the US should launch a common system to check supply chain risks and share that information to minimize cyber-espionage and sabotage on government/military equipment and critical infrastructures. attributed

Current levels of dialogue

The three states remain committed to bringing the cyber realm under the auspices of international law. However, under current international legislation, the execution of self-defense requires the "attack" to constitute "use of force" in order to legitimate and prompt proportional and necessary retaliation. In September 2012, Harold Koh, Legal Advisor for the US Department of State, argued, "Cyber activities that proximately result in death, injury, or significant destruction would likely be viewed as a use of force." If London and Tokyo agree with this principle, the three governments should define a threshold for what kind of "significant" destruction constitutes "a use of force" and set an example for the international community. Such a definition should seek to describe the

[2] This chapter is contributed by Ms. Mihoko Matsubara with great appreciation.

impact of the destruction in order to justify and decide on a response. Such a definition could ultimately prove useful to other US allies.

Second, all three are concerned about the growing cases of cyber-espionage on industries that relate to national security. High technology-related industries, such as machine tools, chemical industries, and defense industries are all high-value targets of cyber-espionage. The three states are already beginning to cooperate in these three areas: in December 2011, Tokyo eased the ban on arms export and indicated its interest in joint development of arms with the UK. In July 2013, the UK and Japan signed a defense equipment cooperation framework and information security agreement,[3] indicating that this trend toward closer security cooperation is continuing. Such cooperation, however, is an Achilles' heel for cyber-attack and requires trilateral detection and protection efforts. Information leaks can erode national security for all three. A prime example of this growing interoperability and the resultant vulnerability is the alleged exfiltration of information on the Lockheed F-35 fighter, which will be procured by all three countries. That China's military stole data on the design, electronic system, and performance of the aircraft affects the security interests of all three.

Potential areas for deeper coordination

To counter cyber-espionage, both policy and technical approaches are necessary. The governments have to reach a consensus on the AOR and a watch list to cover. This decision-making should be assisted by geopolitical risk analysis and their strategic interests in terms of defense, economy, and social well-being. The governments will review the AOR and the watch list on a yearly basis to reflect the dynamics of cyber threats.

Information-sharing

It would be beneficial for the three governments to share the methodology of cyber-attacks and alerts on ongoing or potential threats to minimize damages in a timely manner. To do this, the three governments must establish a procedure and secure communication to exchange such information. They first need to assign a point of contact in relevant departments and ministries and reach an agreement on how to exchange information in a safe manner.

Supply Chains

Finally, it is indispensable for the three governments to minimize the risks to supply chains, which may lead to cyber espionage or sabotage of sensitive government/military equipment and critical infrastructures. *Bloomberg Businessweek* warned in May 2012 that China is the "dominant source" of counterfeit components to

[3] Accessed from the UK government website at https://www.gov.uk/government/news/foreign-secretary-signs-groundbreaking-defense-and-security-agreements-with-japan on July 5, 2013.

the US defense supply chain.[4] Also, the 2012 US Congressional report about Huawei and ZTE[5] indicates possible implanting of malicious software, hardware, or kill switches in electronic devices. These reports have made it clear that vulnerable supply chains can lead to cyber espionage and sabotage.

Given the globalization and limited resources, it is difficult for the three countries to track every single component. Thus, they have to make a priority list on the types of equipment and systems to protect. At the same time, it is necessary to reach agreement on how to exchange information and prevent malicious components from going into their systems.

Regulatory Framework

London, Tokyo, and Washington must launch a trilateral cybersecurity cooperation framework to protect their shared interests and values and minimize cyber-threats on their critical infrastructures and military and economic strength. At the same time, the three governments should work with their allies and friendly countries to establish an international agreement on what constitutes "uses of force" in cyberspace.

TOP OF THE WORLD: UK-US-JAPAN COOPERATION IN POST-2014 AFGHANISTAN

For over a decade, the stability of Afghanistan has been a foreign policy priority for the US, UK, and Japan. Immediately following the attacks of 9/11, all three worked together to ensure Pakistan's leader, Pervez Musharraf, joined the US-led NATO 'War on Terror.' Today, the US and Japan are the top two financial contributors and the US and UK are the top two military contributors to Afghanistan. US forces have suffered over 2,000 fatalities and the UK over 440, with many thousands more wounded. For Japan, no ground troops have been deployed in armed missions, but its economic contributions in a number of areas including security sector reform remain essential. Between 2001 and 2012, $9 billion of aid was committed, and in July 2012, Tokyo hosted the latest multilateral forum on Afghanistan's future.

Competition rather than cooperation, however, has prevailed in Afghanistan policy as donors have sought opportunities to contribute to post-Taliban development. Donors have failed to adequately deal with local complexities, resulting in delayed projects, mismanaged funds, and vulnerability to corruption. As troop numbers are scaled back, this paper argues for a post-2014 agenda which requires cooperation, not just at the multilateral level but within this structure between Washington, London, and Tokyo.

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[4] Tony Capaccio, "China top source of Counterfeit US Military Electronics," *Bloomberg Businessweek*, May 22, 2012, http://www.businessweek.com/news/2012-05-21/china-top-source-of-counterfeit-u-dot-s-dot-military-electronics.

[5] US House of Representatives, "Investigative Report on the US National Security Issues Posed by Chinese Telecommunications Companies Huawei and ZTE," Oct. 8, 2012, http://intelligence.house.gov/sites/intelligence.house.gov/files/documents/Huawei-ZTE percent20Investigative percent20Report percent20(FINAL).pdf.

Recommendations

Dialogue through a trilateral forum should aim to improve understanding of each others' policies and activities.

With budget constraints affecting all three states and domestic pressure to defend aid contributions, efforts should be made to improve efficiency and avoid overlap of development projects. Through greater information-sharing, the US, UK, and Japan can take advantage of each country's individual strengths, such as favorable opinion among Afghan elites, strong on-the-ground presence, and sound stabilization methods.

With sustainability of projects a priority, and the shift from a war to normal economy a substantial challenge, the three governments can coordinate over how best to manage the transition of Afghanistan's economy to self-sufficiency. Such work would also secure the US, UK, and Japan a stake in Afghanistan's future.

Each country has unique relations with regional partners which should be capitalized upon to expedite the effectiveness of policies.

Current levels of dialogue

Limited dialogue exists between the US, UK, and Japan. For example, only the US, UK, Japan, and Germany have Special Representatives responsible for coordinating government policy for Afghanistan and Pakistan. At this senior level, communication channels take place at the departmental level and can be seen in the regular conferences on Afghanistan hosted by these governments. The Tokyo Conference in July 2012 was largely seen as a success. Yet the follow-up scheduled to be held in the UK in 2014, after Afghanistan continues the transition process with a presidential election, will be even more important.

Potential areas for deeper coordination

In advancing the case for closer US-UK-Japan trilateral dialogue on Afghanistan, it must be first recognized that Afghanistan resonates differently with the domestic audiences of all three states. Within the US and UK, the debate on Afghanistan is primarily about terrorism; for Japan, this debate revolves around development assistance.

The three differ in their styles of distributing aid, with Japan often taking a more business-focused approach through loans, rather than offering grants, more favored by the other two. Japan is also not in the habit of attaching moral conditions, such as human rights commitments and universal values, to ODA, and in general has resisted pooling aid with others due to an aversion to this type of conditionality. The UK and US have no such reservations about making aid conditional on the application of values.

Increase efficiency

There remains significant room for improving the monitoring of development aid. Given the substantial commitments of USAID, DfID, and JICA, sharing information on successes and failures in the field would help all three through the learning process in a very fluid and dynamic field of operations. All three face financial constraints, making the need even greater to ensure funds are allocated effectively and minimize overlap and duplication.

In the US and UK, public scrutiny of aid budgets is intense, spurred by government-wide spending reductions and reports of (US) mismanagement of aid to Afghanistan. Such mismanagement of funding has damaged public perceptions of each government's work, presenting potential obstacles to future funding streams. In the summer of 2012, Washington was forced to defend claims that a $45 million compound for Afghan security forces was too expensive for Afghanistan to operate. The UK government was also under fire in September 2012 when British-built schools were forced to close since there were no staff to run them. In Japan, by contrast, public interest is minimal and the issue is rarely discussed in public fora.

Information-sharing

Japan differs from the UK and US in having a severely limited physical presence in Afghanistan. By avoiding boots on the ground, Japan has learned to operate large-scale funding operations with an extremely small national footprint. This has largely been achieved by 'Afghanizing' the monitoring stage of its aid process and by accepting losses to corruption. This small footprint presents both challenges and opportunities for USAID and DfID, which may have to resort to similarly small operations in-country. On the one hand, they have much to teach JICA on monitoring of development funds, while JICA has much to teach them on operating with smaller staffs. In a country as large as Germany, achieving both of these functions should is essential to the combined efforts of Washington, London, and Tokyo.

Japan enjoys a very favorable image in Afghanistan which could benefit others. In part this stems from Japan's lack of history in the region and absence of ground troops. Through the consistent commitment of funds to Afghanistan, Japan has accumulated moral capital and the perception of credibility as well as impartiality. This asset, when coupled with US and UK commitments and development expertise, can act as a force-multiplier, creating mutual benefits.

Sustainability – the transition from aid to economic investment

Going forward from 2014 in Afghanistan, sustainability will be key. To date, substantial amounts of aid have been allocated and each of the three governments shares a significant interest in ensuring the smooth continuation of project work and the development of self-funding efforts. With the withdrawal of troops by the end of 2014, the donor community will remain but work must be done to make the transition from an

aid-dependent to a self-sustaining economy. Efforts will need to accelerate in handing over civilian-control of development projects to Afghan organizations. Here, the US, UK, and Japan hold a shared, noncompetitive objective, which would benefit from coordination and sharing of best-practices and lessons learned.

Until now, the unstable security situation has dissuaded the US, UK, and Japan, as well as other European countries, from deepening private-sector investment. However, looking ahead, despite understandable reluctance, greater efforts are needed to invest in Afghanistan's economy and create a new model for economic development that places responsibility in Afghan hands.

Among other initiatives therefore, the US, UK, and Japan should begin coordination over how risks could be shared in the potential boom of such productive sectors as mining, agriculture, energy, and Afghanistan's nascent private sector. These efforts would provide long-term results for the Afghan people by creating new sectors and industries and providing the government of Afghanistan with much-needed revenue. Financial contributions are set to dramatically decrease following the withdrawal of troops in 2014. Whilst $110 billion to $120 billion a year is estimated to have been allocated by the US alone since the 2010 'surge,' this could be reduced to a still-substantial-sum of $2.7 billion. As the scaling back begins, assisting in the transition from a war to a normal economy and securing funding for the government of Afghanistan will ensure the stability of any future regime.

Such efforts would also ensure for the trilateral members a future stake in Afghanistan and secure another presence from that of military or aid provider. China, India, and Russia are already investing heavily. China, for example, has signed a partnership agreement and was the first to take an interest in Afghanistan's mineral resources, investing $4.5 billion into the copper industry and $7 billion over 25 years into Afghanistan's oil resources. Russia has also shown interest and Afghanistan was admitted as an observer member to the Shanghai Cooperation Organization (SCO) in June 2012.

Using Soft Power

Each government also has built relationships in the region which, if utilized effectively, could provide wider benefits. For example, all three have been deepening ties with New Delhi, which is a vital partner in future Afghanistan stability by ensuring Pakistan does not support the Taliban. Pakistan is crucial for Afghanistan's future; therefore, how the three coordinate with Islamabad is also important. Relations between the US and Pakistan have been strained due to US drone attacks, but with good relations between Japan and Pakistan continuing as well as with other Afghan neighbors, Japan can encourage Pakistan further to support Afghanistan's transition to stability and encourage consensus. Despite some setbacks, the US continues to hold influence over Pakistan, as does the UK, which has historical, demographic, and economic relations.

The US, Japan, and UK have already invested large amounts of money, men, and materiel into Afghanistan. The withdrawal of troops in 2014 will mean more pressure on

the government of Afghanistan, and the gradual lessening of the International Security Assistance Force. All three must ensure that this transition is a smooth one for Kabul and that the future of Afghanistan is a bright and secure one.

GETTING UNDER THE SKIN: THE CASE FOR US-JAPAN-UK COOPERATION IN BIOSECURITY

Cooperation in biosecurity for Japan, the US, and the UK is not merely possible; it is necessary given the technological lead represented by all three states. In 2011, *BioWeapons Monitor* reported the ranking of biotechnological capabilities (publications, patents, and industry) of the United States, Japan, and the United Kingdom as follows: No.1 in North America (No.1 in the World), No.1 in East Asia (No.2 in the World) and No.1 in Northern Europe (No.3 in the world).

These technological advances and their global diffusion pose real dangers[6] to the global community. There are strategic challenges posed by state and terrorist use of biological weapons,[7] but dangers are not limited to the hostile use of biological agents. Safety risks from accidental/unintentional exposure of pathogens to humans, animals, and plants are also increasing as more advanced research laboratories deal with higher-level pathogens. Finally, but most significantly in terms of the number of human casualties and economic impact, there is a threat posed by the natural outbreak of infectious diseases such as SARS and Avian Influenza, which have caused extensive public health and economic damage. Facing the series of unique biological threats, one of the great challenges in enhancing international biosecurity architecture is effective coordination of both internal and external governmental efforts from public health to national security.

Recommendations

- Public health preparedness and response planning (e.g., International Health Regulations of the World Health Organization (WHO));
- Laboratory regulations to safely manage dangerous pathogens and toxins, to prevent an accidental release into the environment and unauthorized access (e.g. WHO Biosafety Guideline, Laboratory Biorisk Management Standard (CWA-15793:2008));
- Intelligence;
- Review of security-sensitive science and technology developments;
- Internationally coordinated export controls (e.g. the Australia Group);

[6] Franz, D.R., 2011. "Biodefense: Where do we go from here?" Presented at *Science, Diplomacy and Security Seminar: Activities by International Science Community*, 14 January, Tokyo RISTEX-Japan Science and Technology Agency.

[7] Petro, J.B. and Seth-Carus. W., 2005. "Biological threat characterization research: A critical component of national biodefense." *Biosecurity and bioterrorism: Biodefense strategy, practice, and science*. 3 (4), 295-309.

- Strong international arms control agreements with effective national implementation, including legislation against bioterrorism and biocrimes (e.g., the Geneva Protocol 1925, Biological Weapons Convention (BWC), Chemical Weapons Convention (CWC), and the UN Security Council Resolution 1540);
- Biodefense; and,
- Education and capacity building[8] among and for life scientists.[9]

Potential areas for deeper coordination

The trilateral effort should focus on two policy priorities. The first is the need for immediate capacity-building in the overarching concepts of public health preparedness, disaster relief, and biodefense. The second is the need for long-term education and awareness-raising policies to promote the responsible conduct of life science research.

Capacity-Building

Regarding the first priority, principal security measures should be those that support responses to, and mitigation of, any natural outbreak of infectious disease for public health purposes. At the same time however, it is also important to point out the unique nature of biodefense, where 'medicine' plays the most significant role.[10] Public health response and preparedness capacities against natural outbreaks of disease (those risks perceived as the most pressing by stakeholders) share characteristics with biodefense against terrorism, while the latter also requires specific measures to counter attacks with weapons. Therefore, giving priority to capacity-building in terms of public health experts and disaster relief operations to respond to natural outbreaks of disease can concurrently strengthen the biodefense programs across the region, which also addresses risks perceived by stakeholders as less pressing.

Raising Awareness

Regarding the second priority, preventive measures are required to mitigate against laboratory accidents and the misuse of dual-use research.[11] These measures are key because many practicing scientists are working in research laboratories and many are conducting cutting-edge research in industry. In order to prevent laboratory accidents,

[8] Pearson, G. S., 1993. "Prospects for chemical and biological arms control: The web of deterrence." *Washington quarterly*, 16 (2), 145-162.
[9] Feaks, D., *et al*., 2007. "Introduction: A web of prevention." In: Rappert, B. and Mcleish, C., eds. *A web of prevention: Biological weapons, life science and the governance of research*. London: Earthscan, 1-13.
[10] Office of the Surgeon General United States Army., 2007. *Medical aspects of biological warfare*. Washington, DC: Borden Institute Walter Reed Army Medical Center.
[11] Kasuga, F., 2011, "Situation of dual-use education in Japan and effort taken by the Science Council of Japan," presented at the *Dual-use issues and the role of life scientists: Side event to the 7th Review Conference of the Biological and Toxin Weapons Convention*. December 12, Palais des Nations, Geneva: United Nations.

technical safety training in higher education and industrial settings is essential. Prevention of the misuse of cutting-edge knowledge requires the embedding of a wider culture of responsibility in the entire life science community, including enhancement of ethical decision-making skills.[12] Another important – but as-yet widely unrecognized principle – is that wider engagement between the science community and biosecurity education is essential if research development and effective security are to coexist.

Regarding the first priority, some policy options can be discussed. The three governments have been jointly working on biological threat reduction under the framework of the G8 Global Partnership[13] since 2002, which has currently expanded to 24 countries. The GP 2011 rightly addressed the needs for broader biosecurity efforts, as biological threats and risks are much wider than those of bioweapons and their delivery systems, incorporating emerging/reemerging diseases, laboratory accidents, and manmade threats (bioterrorism, crime, and warfare).

On the US-Japan bilateral basis, a bilateral partnership on biosecurity should be a topic within which Washington and Tokyo can achieve both domestic political support and also best utilize the existing assets of the US-Japan alliance. The US-Japan Security Consultative Committee (SCC) of defense and foreign ministers, the so-called 2+2 process, is one way to develop strategic objectives in this area under the US-Japan alliance. The 2+2 process developed several joint statements, with the ones in 2005, 2007, and 2011 being of particular interest,[14] as these emphasized disaster relief operations, medicine, counter-terrorism, counter-proliferation, and responsive capabilities to WMD.

Establish Defense Working Group

The 2+2 documents in 2007[15] and in 2011[16] underscored the establishment of a 'Defense Working Group against CBRN Weapons' (CDWG). This will be an important vehicle to develop bilateral consideration on biodefense and should include a substantial role for military medicine not only in relation to CBRN weapons but also for CBRN disasters, by taking an all-hazard approach. In this way, the implications of defense policy developments and further information sharing between the countries should be further considered in cooperation with public health sectors.

[12] Miller, S. and Selgelid, M. J., 2007. "Ethical and philosophical consideration of the dual-use dilemma in the biological science," *Science and engineering ethics*. 13 (4), 523-580.
[13] US Department of State. (2012) *G8 Global Partnership Agrees to Biosecurity Deliverables Document* [online]. Available from: http://www.state.gov/t/isn/gp2012/rls/docs/196021.htm
[14] Cronin, P.M., *et al*., 2010. *Renewal: Revitalizing US-Japan Alliance*. Washington, DC: Center for a New American Security.
[15] Rice, C., *et al*., 2007. *Alliance transformation: Advancing United States-Japan security and defense cooperation* [online]. Available from: http://www.mofa.go.jp/region/n-america/us/security/scc/joint0705.html
[16] Clinton, H.R., *et al*., 2011. *Cooperation in response to the great east Japan earthquake* [online]. Available from: http://www.mofa.go.jp/region/n-america/us/security/pdfs/joint1106_03.pdf

There are policy interventions regarding the second priority – long-term education and awareness-raising for life scientists. At the Seventh Review Conference of the Biological Weapons Convention (BWC) in 2011, 13 governments (including the US, the UK, and Japan) jointly presented the working paper "*Possible approaches to education and awareness-raising among life scientists.*"[17] The working paper reported educational efforts on biosecurity in different countries, stating that there is no one-size-fits-all, but biosecurity education is possible to promote under the BWC. The paper emphasized the necessity of sharing best practices on biosecurity education among interested countries.

There are some noteworthy developments in the US, the UK, and Japan. In the US, the National Science Advisory Board for Biosecurity (NSABB) was established in 2004; a key mission of NSABB is "to provide recommendations on developing programs of outreach and education on dual use research issues for all scientists and laboratory workers at federally-funded institutions."[18] In 2011 the Science Council of Japan established a committee on dual-use issues with a view to: 1) analyzing the development of science and technology trend, 2) developing educational modules and codes of conduct for scientists, and 3) sharing best practice with international partners including the BWC. In the UK, the DSTL of the UK Ministry of Defense launched the UK Biological Engagement Program: Strengthen Biological Security in 2012, specifically focusing on biosecurity education for countries from the former Soviet Union and the Middle East.

There is a clear need for trilateral efforts to strengthen biosecurity in the 21st century and there are nascent but clear opportunities to achieve two major policy interventions. By utilizing bilateral security cooperation among the three governments in coordination with regional and international frameworks, the governments are better placed to lead in developing a global biosecurity architecture.

Conclusion

The post-Cold War period has seen great shifts in global security, the effect of which has been to invigorate the US alliance system. These shifts have included a wide range of threats, some ancient (such as piracy), some new (such as hackers). Overlapping changes have taken place that affect security and foreign policy. The first of these changes in global state-centric architecture has been the growth – from the 1970s – of nongovernment organizations and other nonstate actors, whose power has surged with new developments in communications and technology. States must now interact with and counter groups as diverse as Al Qaeda, the Muslim Brotherhood, Anonymous, Somali

[17] Australia, Canada, Japan, New Zealand, Republic of Korea and Switzerland (on behalf of the "JACKSNNZ"2), Kenya, Pakistan, Sweden, Ukraine, the United Kingdom of Great Britain and Northern Ireland and the United States of America. (2011) *Possible approaches to education and awareness-raising among life scientists*, BWC/CONF.VII/WP.20, November 1, Geneva: United Nations. Available from: http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G11/643/57/PDF/G1164357.pdf?OpenElement

[18] NSABB, 2008. *Strategic Plan for Outreach and Education on Dual Use Research Issues: Report of the NSABB*. Washington, DC: NSABB.

pirates, and transnational criminal networks. While states maintain the largest holdings in organized hard power, the range of nonstate actors has complicated the traditional interstate threat-matrix. The potential for terrorist organizations to get hold of weapons of mass destruction – such as biological weapons – remains a crucial challenge to traditional notions of deterrence.

Changes in technology have also shifted the traditional organizational models of nonstate actors. The network system – of which the internet is only one example – has magnified the ability of actors to connect around the globe, exchanging ideas, ideologies, tactics, weapons, and even strategies. These revolutions in communications technology, brought on by the creation of the Internet and mobile communication devices, are complex events in themselves, presenting states with opportunities as well as challenges. The development of digitally connected national infrastructures and their vulnerability – reviewed in the first part of this report – presents the US and its allies with a new type of threat, one that lacks historical parallels. As this paper has proposed, the digital revolution presents traditional region-centric, geospatially-located alliance structures with new challenges. Simply put, alliances can no longer afford to be region-centric as cyber-attacks originating in Asia affect Washington, London, and Tokyo with equal measure.

The continued willingness of Islamic jihadist groups to take advantage of areas with weak governance – most recently in Mali – indicate that the need for complex operations will continue to have a place in force planning. The response in Afghanistan has been a complex mixture of peace-building, development, good governance, and trade, along with kinetic hard power. Given events in Sub-Saharan and East Africa, it is likely that the US, UK, and Japan will continue to be involved in such operations together. Given the complex nature of such operations, it is best that the three work closely together. Another technology shift that affects the alliance system is that which has taken place in the bio-field, and the impact it continues to have in the security field. As these weapons systems increase their potency, the trend has been for development costs to drop, putting them in reach of nonstate groups. This danger, as well as those associated with those states eager to develop bioweapon systems of their own, increases the risks for all. Training and awareness should be only part of the push by London, Tokyo, and Washington. Regulation and oversight must follow.

Given the changes in the international system, and in the nature of that system, Western powers and their allies must change and adapt to new threats. The old, traditional regional alliance systems are no longer sufficient. Bureaucratic inertia must not blind us to the need for new dynamic and flexible groupings of these familiar ties. The links between two of the United States' most important security and financial partners logical, and despite geographic distance, those links should be encouraged in areas where geography is negated. This paper has identified three – and there are probably more – fields where Washington, Tokyo, and London could easily step up cooperation and harvest low-hanging fruit within a year or two of initial coordination. Cooperation in this instance is a mind-set and should be treated as such.

A New Phase of Japan-Australia Relations

By Yusuke Ishihara

Disclaimer: The views expressed here reflect only the author's personal perspectives, and are not necessarily the official position of the National Institute for Defense Studies or the government of Japan.

Introduction

The Japan-Australia security partnership is entering a new phase of the bilateral security cooperation. In September 2012, foreign and defense ministers of the two countries held the 4th 2+2 meeting in Sydney and issued a new landmark document called "Cooperating for Peace and Stability-Common Vision and Objectives," or the Vision Statement, which lists a number of new cooperation items. This article takes a close look at the Vision Statement in order to analyse the driving force of the current Japan-Australia cooperation.

Japan and Australia as Natural Strategic Partners?

The Vision Statement issued by the 4th 2+2 meeting calls the two countries as "natural strategic partners." It notes the obvious, that: "Australia and Japan are natural strategic partners sharing common values and interests, including a commitment to democracy, the rule of law, protection of human rights and open markets." However, the strategic contexts which underwrote the emergence of such naming and the Vision Statement itself tell more than that simple definition. There are at least three strategic contexts that are worth a closer scrutiny in this regard; namely, 1) the power shift, 2) the maturity of the bilateral institution, and 3) the change of Japan's security policy under the DPJ-led government.

The first context is that Japan and Australia are increasingly aware of the changing power relativities. In the case of Japan, such a perception is bipartisan. 2010 National Defense Program Guidelines crafted under the DPJ-led coalition government refers to the changing global power balance, and even Prime Minister Shinzo Abe noted the global power shift occurring in Japan's security environment. The Australian government has also produced a number of reports addressing this very question, including the *Australia in the Asian Century White Paper*.

Growing recognition of the shifting power relativities, however, does not require fundamental changes of the rationale for Japan-Australia security relations. For both governments, the implication is that the strategic objectives that Japan and Australia have been pursuing in concert for the past years have only become even more important. One de facto joint strategic objective is to cooperate to shape the security environment in which China is rising.

It is often pointed out that Japan and Australia have differing perspectives on the rise of China. Given the differences in history and geography, it is natural that Japan faces

constant challenges by the PLAN and some of the so-called five dragons in the waters around the Senkaku Islands, while Australia does not have such an acute sense of risk in relation to China. Furthermore, Australia repeatedly manifests its intention to avoid dragging itself into the on-going Japan-China crisis by maintaining its impartiality over the sovereignty of the islands in East China Sea.

While it cannot be denied that the two countries diverge on their perceptions and policies on China, it is also the case that they see significant convergence elsewhere. Japan and Australia are in agreement about the importance of promoting a rules-based order and open regional architecture, keeping China's rise in mind. In fact, the September 2012 Vision Statement refers to the importance of enhancing the international cooperation framework as well as working to create an international code of conduct for activities in the space domain. When it comes to regional architecture in the Asia-Pacific, the Vision Statement explicitly reflects on the increasing importance of the East Asia Summit and ADMM Plus as key components. It also promotes international principles and rules relevant to the maritime domain (such as UNCLOS) and freedom of navigation and lawful commerce.

The most important element of the Japan-Australia approach in promoting the foundation of the open and rules-based architecture is their joint support for the alliances and US regional engagements. The past record of Japan-Australia collaborations, the Humanitarian Assistance and Disaster Relief (HA/DR) mission for Indonesia, and peacetime activities such as Pacific Partnership suggest that the two countries intend to cooperate with the US in providing public goods, hence helping enhance the regional standing of the US.

The second strategic context which is important for understanding the Vision Statement is the development of Japan-Australia bilateral institutions. Japan and Australia have achieved clear success in the joint efforts to build closer bilateral cooperation which in turn encourages Japan and Australia to strengthen their recognition of one another as an important security partner. In fact, Japan and Australia have made significant progress on at least three action-items identified by the Joint Declaration on Security Cooperation in March 2007, or the Joint Declaration.

The two countries successfully created legal institutions for closer bilateral cooperation. The action plan to implement the Joint Declaration highlights the importance of international peace cooperation activities including logistics cooperation and commencing discussions on measures to exchange and protect classified information in order to promote intelligence cooperation. These two agendas have been successfully addressed in the Information Security Agreement (ISA) signed by the foreign ministers in 2012, effective March 2013, and the Acquisition and Cross-Servicing Agreement (ACSA) concluded in 2010, which entered into effect in January 2013.

Another action-item described by the Joint Declaration was deepening of peacetime contacts across various levels and sections of the two governments. In terms of policy dialogues, Japan and Australia frequently hold the 2+2 meeting (2007, 2008, 2010,

2012) while conducting a number of pol-pol/pol-mil/service-to-service meetings on a regular basis. In addition to those talks, the Self-Defense Force and Australian Defense Force have begun to conduct joint trainings such as the Nichi-Go Trident in which the Maritime Self Defense Force and Royal Australian Navy dispatches their surface vessels, submarines, and maritime surveillance aircraft to take part. In June/July 2011, the F-15s of Air Self Defense Force and the F/A-18s of Royal Australian Air Force conducted the very first air combat training. These action-oriented steps are important, albeit preliminary, starters towards greater interoperability between the two countries.

Lastly, no analysis of Japan-Australia security cooperation can be complete without taking account of the wider trilateral framework. In fact, the Japan-Australia bilateral partnership has developed to a substantial degree as one side of the triangle cooperation with the common ally, the United States. Japan, Australia, and the United States institutionalised their policy dialogue mechanism by creating the ministerial-level Trilateral Strategic Dialogue (TSD), the Director-General-level Security and Defense Cooperation Forum (SDCF) as well as issue-specific working groups. The three countries pursue active joint training activities including the trilateral maritime exercises and trilateral air training on the occasion of Cope North Guam while exploring opportunities to invite Japan and Australia to alliance exercises such as Yamasakura and Talisman Sabre.

The progress of the institutionalization in these three regards paved a way for Japan and Australia to build even stronger cooperation as "natural strategic partners." Based upon the ACSA and ISA, the two countries aspire to further enhance their interoperability in order to readily respond to crises such as an earthquake in the region. Australian Foreign Minister Bob Carr notes that Japan and Australia attempt to strengthen the bilateral relations so that, should a crisis materialize, the two countries would spontaneously contact each other to explore ways of cooperation. Likewise, increasing the interoperability is a key agenda for the trilateral partnership as the annualized trilateral defense-ministerial meeting prioritizes it. Japan and Australia together with the US are pursuing greater interoperability to cooperate in more effective manners.

The third context which the Vision Statement reflects is the result of some new policies that the DPJ-led coalition government has introduced into Japan's security strategy. One such initiative is the introduction of the capacity building effort as a new area of MOD/SDF activities. The capacity-building is a new policy area for Japanese Ministry of Defense and an opportunity to learn from and cooperate with their experienced partner. In fact, capacity-building is one of the new areas for bilateral defense cooperation which the September 2012 Vision Statement emphasizes. Australia has a long and successful record of capacity building efforts, first in Southeast Asia, and in more recent years in South Pacific. For example, Australia has been pursuing the Pacific Patrol Boat program to assist the management of the maritime territories of island states since the 1980s. The Pacific Patrol Boat program, in which Australia provides the patrol boats, the necessary training and the maintenance assistance, was installed after UNCLOS came into effect. By doing so, the program assists the island nations with little capacity to govern their vast areas of EEZ. This contributes to the stability of Australia's

immediate region as well as the strength of the UNCLOS by strengthening the capacity of such sea-faring nations.

Another change of Japan's security policy under the DPJ-led government which could have a potentially huge impact on Japan-Australia relations is the new policy over the three principles of arms exports. One of the areas in which the new policy encourages Japan to participate more actively is the international joint development with the countries which have a close security relationship with Japan. This has come up on Australia's radar. Australia has been pursuing the Future Submarine Fleet project or SEA1000 in which the existing fleet of six *Collins* class submarines is to be replaced by 12 new conventional submarines. SEA1000 has been delayed largely due to the time-consuming basic studies about such issues as Australia's industrial capacity and skills, and the government's report already concluded that it was important for Australia to seek international support for the project. Given the features of the operational environment for Australia's submarine, it is understandable that Japan's Soryu class submarine gathers attention among many Australian experts. This is because, according to some reports, the other conventional submarines operated by European countries do not operate in as wide an area as Australian submarines do or in seas of such varying temperatures.

Nothing is decided yet about Japan-Australia cooperation in this regard. The dialogue is now going on between the two governments to exchange information and work to establish the basic framework for the bilateral technology/equipment cooperation in general. But if the two countries do decide to cooperate in one way or another for Australia's submarine development, the potential implications could be huge. Because of the sensitivity and vital importance of submarine capability for both nations, cooperation on submarine development will be an important symbol of the trust that the two countries place in one another. Furthermore, given the fiscal difficulties that both sides face right now, tangible capability collaborations like this kind cannot be overemphasized.

Return of the Value-Based Diplomacy?

The December 2012 general election of the House of Representatives gave a landslide victory to the Liberal Democratic Party and New Komeito, which brought back Shinzo Abe as Prime Minister of Japan. It was widely reported that the new government would take a "hawkish" or "tough" stance towards China. Such speculations were fueled by the incoming Prime Minister's pre- and post- election remarks about, for example, stationing public servants on the Senkaku Islands, making use of the decommissioned MSDF vessels for patrolling the waters around the Senkaku Islands, and increasing the budget for defense and coast guard.

In addition to Japan's unilateral efforts, Prime Minister Shinzo Abe regards "getting back" foreign policy as a key element for getting out of the "diplomatic defeat" brought about by the Democratic Party of Japan and effectively tackling the rise of China. Central to such efforts is the alliance with the US, as he notes in his new book *Towards a New Country: Complete Version of Toward a Beautiful Country*. On top of the alliance, Prime Minister Abe also calls for building Asia's Democratic Security Diamond formed

by Japan, India, Australia and the US The idea is that "to improve Sino-Japanese relations, Japan must first anchor its ties on the other side of the Pacific."

The notion of a Democratic Security Diamond sounds like a revival of the Asia Pacific Democratic G3 plus the US, an idea put forth in his 2006 book *Towards a Beautiful Country*, which he attempted to realise during his first tenure as Prime Minister. In fact, some of the leading foreign policy thinkers during Abe's first term have come back in important positions with the current government, such as former administrative vice minister of foreign affairs Shotaro Yachi, who assumes the Special Advisor to the Cabinet, and Nobukatsu Kanehara has been promoted to Assistant Deputy Chief Cabinet Secretary (diplomacy).

Despite the impression of change that these moves may create, it remains yet to be seen to what extent the new government's diplomacy will change the nature of Japan-Australia relations in the short term. In retrospect, when the first Abe government was inaugurated in 2006, Abe's idea of cooperation among the regional democracies was distinguished precisely because Japan was yet to build the bilateral security relationships that were witnessed in the following years. By contrast, it is obvious that by now Japan has already gone a substantial way to strengthen a security partnership with a range of countries, most particularly including Australia. In fact, all the successive prime ministers continued the momentum of Japan-Australia security relations that Abe created in 2007. Reflecting this are perhaps Abe's own words. Although he normally shows no reluctance in attacking the DPJ government's foreign policy, it is remarkable that Abe praised the fact that the DPJ government continued to build closer Japan-Australia ties. This indicates that the new government intends to take over the baton from its predecessor, at least in the short term.

Perhaps the difference that the new LDP-led coalition government has generated so far is not about the substance of Japan-Australia cooperation but the way that Japan talks about its relations with other regional democracies, including Australia. Although Japan-Australia cooperation has been in many ways closely related with the rise of China, as this article already discussed, the leaders of both countries are often very cautious of explicitly linking their cooperation and the rise of China. Now the Japanese prime minister seems to be willing to do so. Australia's response to such Japanese discourses seemed very clear, when Foreign Minister Bob Carr noted in a press conference with foreign minister Fumio Kishida, "Our relationship contributes to stability and prosperity in the region, and none of this – as I've said in the past – is about containment of China," (although Japan's intention is far from containing China.)

Long Term Questions about Japan-Australia Relations

The development of Japan-Australia bilateral relations poses challenges for both practitioners and academics, some of which have to do with the long term goal for the bilateral relationship. The Vision Statement announced in September 2012 is not necessarily clear about what direction the Japan-Australia partnership is headed in the long term. In this context some claim that the long-term goal of the bilateral security

relations is to become an alliance, and the current partnership is the alliance in the making, though there is no current plan from either government to transform the bilateral relationship into an alliance. If becoming an alliance is not the long-term goal, however, what can be alternative models?

In the meantime, it is important to note that though Japan and Australia do not intend to become allies, it does not necessarily preclude possibilities of bilateral or trilateral defense cooperation being pursued in more conventional areas. For example, if Japan and Australia both seek to offer assistance to the US when some contingency takes place on the Korean Peninsula, it may be conceivable in theory that Japanese officials consider it important to offer refueling assistance and access rights for Australian Defense Forces operating near Japan. Another conceivable situation is that if Japan's legal position over the right of collective self-defense is revisited in the near future, experts on both sides may have to think more seriously through implications of such policy tuning upon Japan-Australia relations. Perhaps there have been reasons why few people talked about these long-term possibilities until now, as the bilateral relations have been at the very preliminary stage of building institutions. As the bilateral partnership becomes increasingly mature, it may be increasingly important to have policy discussions about what should and should not be done for the long-term mutual interests – while academics also discuss what Japan and Australia can and cannot do together in the decades (not years) to come.

Moving Past the Island Row:
Trilateral Opportunities for Japan, Russia and the US

By Jonathan Berkshire Miller

The following article has been revised and adapted from an original entry in the East Asia Foundation's journal, Global Asia, vol.7, no.2, summer 2012.

Amid debate about a renaissance of US power in Asia, Vladimir Putin has been thinking about his own "pivot" or "rebalance" to the Far East. Russia has always maintained its historical legacy as a Pacific power, but this has largely been ignored for decades. Meanwhile, Japan has been challenged this past year by China, South Korea, and Russia on its territorial disputes. This, coupled with China's increased assertiveness on security policy in the region, has created an environment of new challenges that Japan, the US and Russia must confront as Asia continues to morph into the most strategically important region in the world.

The United States should maintain its policy of "non-interference" on Asia's territorial disputes. That said, it will be important for Washington to push for greater trilateral engagement with Russia and Japan in an attempt to soothe the bilateral rift between Tokyo and Moscow. Spending diplomatic capital on improving the Japan-Russia relationship will be risky but costs little compared to the potential rewards, such as a less handcuffed Japan.

A New Security Landscape in Asia

China's rapid growth presents challenges and opportunities for the US, Russia, and Japan. All three countries have significant investments with Beijing and rely on having access – even if limited – to the Chinese market. Despite this, there is clear recognition in all three capitals that a Sino-centric continent is not in their interests. But China is not the only issue policymakers in Washington, Tokyo, and Moscow are concentrating on. Asia's security infrastructure has become increasingly dynamic and fragile and is riddled with potential landmines – including a truculent regime in North Korea, increased competition for resources and influence in Central Asia, and transnational threats such as international terrorism and organized crime.

Amid these conditions, Russia, the US, and Japan are obliged to recalculate their strategies to adapt for a future geopolitical realignment in Asia. A strengthened partnership between Tokyo and Moscow makes sense – both sides recognize the stakes and that the rules of the game are no longer static. This was expressed quite transparently when the foreign ministers of both states met earlier this year and released an official statement claiming that "Japan-Russia relations are taking on a new importance amid drastic changes in the security environment in the Asia-Pacific region."

Unfortunately for those hoping for a reset in Japan-Russia relations, there are serious obstacles that prevent their partnership from expanding beyond its current state.

The two countries have gone to war twice in the past century. The first occasion demonstrated to the world that Japan had arrived as a legitimate military power with its stunning defeat of the Russian Empire in the Russo-Japanese war of 1904-5. The second had a different result: the Soviet Union sent the Red Army into Manchuria to claim territorial spoils from a fatally crippled Imperial Japan at the conclusion of World War II. While the legacies of historical wounds often remain potent, it is their tangible element that complicates attempts to repair frayed relationships. Japan and Russia have been denied a cathartic restart due to the festering territorial dispute over the Southern Kuril Islands (referred to as the Northern Territories in Japan). There are positive signs, however, as the two countries work together on several important bilateral and multilateral issues; such as nuclear nonproliferation, counterterrorism, energy security, and information technology. But while the Kuril dispute has thus far not made the two strategic rivals, it has smothered any chance of a deep and comprehensive partnership.

The Islands Dispute

The Kuril Islands are a chain of more than 50 islands that stretch north from Hokkaido in Japan to Kamchatka in Russia. All are today administered by Russia, but diplomatic and legal attempts to decipher which country is the rightful owner of four of the southernmost islands – Etorofu, Kunashiri, Habomai and Shikotan – are muddied by a series of historical treaties dating back to 1855. Tokyo claims that the sovereignty of the Southern Kurils has never been debatable and that the four disputed islands have been part of Japan since the early 19th century. This is confirmed, according to Japan, by the Shimoda Treaty of 1855 and the Portsmouth Treaty of 1905 at the conclusion of the Russo-Japanese war.

This all changed when the Soviet Union took over the islands following World War II. For its part, Russia remains unyielding to Japan's protests that the islands be returned by pointing to the Yalta Agreement (1945) and Potsdam Declaration (1945) as proof of its sovereignty. Russia also emphasizes that the 1951 San Francisco Treaty serves as legal evidence that Japan acknowledged Russian sovereignty over the islands, a claim that Tokyo vehemently denies.

Perhaps the closest opportunity came in 1998 when Japanese Prime Minister Ryutaro Hashimoto, emboldened by his personal friendship with Russian President Boris Yeltsin, presented a visiting Russian delegation with a grand bargain to end the feud over the islands and sign a peace treaty at the same time. The "Kawana Proposal" outlined that Japan and Russia demarcate their borders indicating that the Northern Territories belonged to Japan. In return, Hashimoto promised Yeltsin that Japan would agree to continued Russian administration and joint economic development of the islands. The sweetener would be Hashimoto's commitment that Japan would sign a peace treaty with Russia if Yeltsin agreed to the proposal. Hashimoto was essentially willing to put off tangible sovereignty in favor of legal recognition. Unfortunately, the gamble failed: Russia rejected the proposal later that Fall when Hashimoto's successor, Keizo Obuchi, traveled to Moscow with hopes that a deal could be struck.

There have been a range of other proposals, both formal and informal, since the Kawana summit. Russia once offered to return the two smaller islands to Japan (Shikotan and Habomai). Other diplomatic attempts have proposed the return of three islands to Japan (all except Etorofu) or the joint administration of the islands with no one state having sovereignty. Unfortunately, none of these compromises have been able to satiate the domestic political demands in both countries. Nationalist sentiment in Japan remains strong over the return of all four islands and it is politically difficult for perpetually weak governments to propose a compromise resolution. Similarly, the Russian public strongly opposes a return of the islands to Japan. The islands are home to thousands of Russian citizens and remain a nationalist badge symbolizing its victory during World War II. But public sentiment is not the only reason. The islands are geopolitically important to Russia and represent a strategic gateway to East Asia that complements its port in Vladivostok.

Recently, there have been slightly more positive signals. In January, former Japanese Prime Minister Yoshiro Mori appeared on Japanese national television and drew a line on the map separating Japan from Russia. Mori's line was directly northeast of three of the disputed isles (Kunashiri, Shikotan and Habomai) but intentionally stopped short of including the largest island, Etorofu, which remained in Russian territory and signaled Mori's desire to compromise with Russia. Mori justified this concession as a "realistic approach" to resolving the long standing territorial row between the two countries.

Almost immediately following the Mori proposal, the administration of new Prime Minister Shinzo Abe rebuked the comments and insisted that Japan would maintain its official policy that all four islands be returned. Chief Cabinet Secretary Yoshihide Suga underscored this with a caveat: "(The government) will firmly maintain its basic policy, which is to confirm that the four islands belong to Japan and thereafter conclude a peace treaty with Russia. Then we can be flexible over the timing of actual reversions of those islands." But Tokyo is not pouring cold water on resolving the spat and sent Mori, who has a strong relationship with Russian President Vladimir Putin, to Russia in mid-February to kick start negotiations. Putin indicated last year that he was committed to "permanently resolving" the dispute. Abe and Putin may make further headway during their summit meeting in Moscow slated for late April of this year.

Beyond the Island Row: Trilateral Opportunities

With the geostrategic topography in Asia changing quickly, Russia, Japan, and the US must adapt to meet new and evolving realities. With the Japan-US alliance as the foundation, there are niche opportunities for trilateral engagement with Russia. Since 2010, the Japan Institute of International Affairs (JIIA), the Center for Strategic and International Studies (CSIS), and the World Economy and International Relations in Russia (IMEMO) have conducted a series of track-2 dialogues on trilateral opportunities. During the 2011 conference, held in Tokyo, former Foreign Minister Seiji Maehara emphasized the importance of forging a concrete trilateral relationship: "If we could develop these three bilateral relationships into a framework of trilateral cooperation, the lines of collaboration would form a sphere and this would largely enhance regional

cooperation. My feeling is that this trilateral cooperation has the potential to create a new order in the Asia-Pacific region."[1]

One timely area for pressing cooperation is North Korea. Washington, Tokyo, and Moscow remain focused on a denuclearized Korean Peninsula. Unfortunately, both Russia and Japan are both in danger of being squeezed out of dialogue as Pyongyang ramps up its provocations in an attempt to force concessions bilaterally from the US. Any illusions that Kim Jong Un would reform North Korea have been met with bitter disappointment after two missile launches and a nuclear test within the same year. The US and Japan have traditionally coordinated policies on dealing with the North's intransigence but will need more players in the tent to apply the requisite pressure for Pyongyang to change its calculus. Russia has no interest in a nuclearized Korean Peninsula, and is also eager to work with South Korea and Japan on a natural gas pipeline that would traverse from Siberia to the Sea of Japan. And Japan is especially invested in its partnership with Russia on this front, as Moscow has previously mediated the contentious issue of the return of Japan's abducted nationals.

Another intriguing area for cooperation is energy security. Japan and Russia have been pushing on this front bilaterally for a decade. Both countries are working to build on promise of the 2003 Japan-Russia Action Plan – signed by Putin and former Japanese Prime Minister Junichiro Koizumi – that calls for joint energy development on the Russian island of Sakhalin. Last November, the *Asahi Shimbun* reported that a consortium of four Japanese gas companies had agreed to plans to construct a 1400 km pipeline that would import liquefied natural gas (LNG) from Sakhalin. Japan and Russia also have annual energy consultations at the working-level.

But there are also trilateral opportunities. Involving the US in pre-existing Japan-Russia cooperation in the resource development and production projects of the resource-rich Russian Far East would be a positive step in ensuring a stable energy supply for the whole Asia-Pacific region. Critics will point to the fact that Moscow and Washington are emerging energy rivals due to the shale gas revolution in the US. Japanese energy expert Shoichi Ito recently summed this point up in a commentary for the Brookings Institution, "The US shale gas revolution came as a harsh blow to Moscow, given that Russia is frustrated by the gradual decreases of its natural gas exports to Europe as consumption there declines and the EU seeks diversification of natural gas supply routes."[2] But Russia is not solely focused on the shale gas revolution from the US. It is also looking at other competitors such as Canada and potential for untapped shale in China.

Japan, Russia, and the US also cooperate on many other fronts, including: nuclear disarmament, counterterrorism, narcotics smuggling, and humanitarian assistance. The nuclear crisis at Fukushima Dai Ichi, along with the rapid growth of nuclear energy in

[1] Seiji Maehara, "Remarks by Seiji Maehara, Minister for Foreign Affairs of Japan, at the Dinner with the participants of the 2nd Japan-US-Russia Trilateral Conference," Jan. 17, 2011. http://www.mofa.go.jp/announce/fm/j-us-r_remark110117.html

[2] Shoichi Ito, "Energy Security in Northeast Asia: A Pivotal Moment for the Japan-US Alliance," March 2013. http://www.brookings.edu/research/opinions/2013/03/12-energy-security-itoh

Asia, should bring together the US, Russia, and Japan to work on nuclear safety. Moreover, the three should continue to actively contribute to reducing the risk of nuclear terrorism in Asia through existing threat reduction instruments such as the Global Initiative to Combat Nuclear Terrorism, the G8 Global Partnership, the Proliferation Security Initiative, and the Nuclear Security Summit process.

Conclusion

The fourth session of trilateral dialogue between Russia, Japan, and the US is slated to take place this summer in Washington. Following up on recommendations from the last conference, officials from all three countries agreed to bump this track-two dialogue up to "track 1.5" – a hybrid model that would encompass academics, think tanks, and government officials. This is a significant move towards realizing more concrete avenues for engagement. A strong Russo-Japanese strategic partnership is not only important to Moscow and Tokyo. Bolstered ties would also boost the US "rebalance" in Asia. Trilateral cooperation, even in its nascent stage, would work on important multilateral security initiatives and common goals in areas such as energy and nuclear safety.

Realizing Dynamic Defense via an Amphibious Capability in Japan's Self-Defense Force

By Justin Goldman

Today the Japanese face an increasingly complex regional security environment, particularly along the Southwest Islands, where a growing number of incursions from Chinese government vessels are occurring in what Japan claims as its territorial waters. The security of offshore islands has developed as an area of focus within Japanese defense planning. Although the nature and range of threats has evolved, a core focus of the Japan Self-Defense Forces (JSDF) remains the same; it is grounded on the requirement to protect the nation from an amphibious invasion.[1] The 2011 *Defense of Japan White Paper* is extremely clear when it states, "in the case of crises enveloping one or more of Japan's offshore islands, it is vital that Ground, Maritime, and Air Self-Defense Force units carry out joint operations rapidly and flexibly."[2] Japan has confronted challenging conditions in recent years during times of domestic political uncertainty, ranging from the March 11, 2011 triple disaster, to the government's decision to purchase three of the islands in the Senkakus from their private owner in September 2012. While the Japanese hold that there is no territorial sovereignty issue, China refers to the islands as Diayou as they also lay claim to them.

This piece will focus on the development of an amphibious capability that would consist of all three services within the JSDF. It is organized into three sections with the first focusing on the current defense thinking in Japan. Shortly after a Chinese trawler collided with a Japanese Coast Guard (JCG) vessel in October 2010, the government released the National Defense Program Guidelines (NDPG). A robust amphibious force would help meet the requirement that the future defense force will possess "readiness, mobility, flexibility, sustainability, and versatility." Following his December 2012 election, Prime Minister Shinzo Abe ordered the 2010 NDPG frozen and directed Defense Minister Itsunori Onodera to review and revise the guidelines. Prime Minister Abe's Liberal Democratic Party (LDP) has expressed its desire to increase defense spending and to strengthen defense posture in response to growing Chinese assertiveness in the East China Sea, making an amphibious capability increasingly relevant.[3] The second section will examine how developing an amphibious capability presents an excellent opportunity for the Japan-United States (US) alliance. The US Marine Corps, in partnership with the US Navy, has the doctrine and experience to support the JSDF in developing this capability. The last section will focus on the impact of such a capability for Japanese decision-makers. Today's crises and future complex contingencies will present shorter advance warning to those responsible for policy decisions.[4] Ultimately, an amphibious capability consisting of all three services within the JSDF would ensure

[1] Daniel Kilman. *Japan's Security Strategy in the Post-9/11 World: Embracing a New Realpolitik* (Wesport: Prager, 2006) pp. 24.
[2] Japanese Ministry of Defense, *Defense of Japan* (Tokyo, Aug. 1, 2011), pp. 150.
[3] "New Defense Plans Due by Summer," *The Japan Times*, Jan. 9, 2012.
[4] Robert B. Watts, "The New Normalcy: Sea Power and Contingency Operations in the Twenty-First Century," *Naval War College Review* 65, no. 3 (Summer 2012), pp. 51.

the necessary air assets and sealift are able to bring a combined arms force to an unfolding crisis.

Developments toward a Dynamic Defense Force

The 2010 NDPG reflected Japan's recognition of the need to enhance its defense posture in the East China Sea and along the southern Ryukyu Island chain to contend with an assertive China's military modernization. This section will look at the increasing Ministry of Defense (MOD) attention placed upon joint operations in the SDF as well as the enhancement of intelligence, surveillance, and reconnaissance highlighted in Japanese defense thinking, plus the need for greater deterrence. The heart of the Dynamic Defense Force concept is operational readiness for crisis response, and in the case of amphibious forces, this is a joint pursuit integrating all three services. This effort builds on actions taken in recent years by Japanese decision-makers to move "from an SDF that simply exists to an SDF that actually works," as Shigeru Ishiba, then Director-General of the Japan Defense Agency said in the foreword of the 2004 *Defense White Paper*.[5]

Amphibious forces are most associated with forcible entry landings, and in Japan's current context, planning must take place for the dispatch of an amphibious task group to retake offshore islands. But their utility goes far beyond that. Such a task group would incorporate surface ships suitable of transporting ground forces with their equipment, the means of moving ship-to-shore by vertical envelopment or surface maneuver, and the ability to sustain forces once ashore meeting a range of needs from resupply to fire support for maneuvering units. Their US Marine counterparts have carried out more than 100 amphibious operations since the end of the Cold War, with only very few of those being combat missions.[6] Developing such a combined arms force can support the requirement for rapid response to domestic disasters. It would continue to push the JSDF forward from its more static past to a more dynamic force that can contend with current and future security challenges. Following the March 11 triple disaster, JS *Hyuga* quickly got underway and steamed to the Tohoku region with its four onboard helicopters carrying out time-sensitive search and rescue operations. Its extensive function for command and communications was essential in directing the multi-vessel response during relief operations.[7] The MSDF moved relief supplies ashore via Landing Craft Air Cushion (LCAC) from *Osumi* Tank Landing Ships (LST) in the proximity of Ishinomaki port, whose harbor had been destroyed by the tsunami.[8] This employment represents a starting point for what an amphibious capability could bring Japan, but more training is needed in such cross-domain functions, including greater integration between ground and maritime forces.

[5] Yasushi Sukegawa, "Political Opposition to a Working SDF: From a Legal Perspective," *NIDS Security Reports*, No. 8 (December 2007), pp. 53.
[6] Loren Thompson, "US Navy's Shift to the Pacific: A Boon for Marine Corps' Mission," *Forbes*, June 4, 2012.
[7] Japanese Ministry of Defense, *Defense of Japan* (Tokyo, Aug. 1, 2011), pp. 9.
[8] East Asian Strategic Review 2012, *National Institute for Defense Studies* (May 2012), pp. 239.

Joint Mobility

The operational utility of the SDF in responding to a crisis requires rapid maneuver of forces to the location of a crisis, particularly along the Southwest Islands. The security challenge Japan faces was reinforced by the January 2013 incident where a Chinese Navy frigate reportedly locked fire-control radar on a Maritime Self-Defense Force (MSDF) destroyer in the East China Sea, 180 kilometers north of the Senkaku Islands.[9] "The 2004 NDPG directed the SDF towards a multi-role, flexible force. Current efforts build on this recognizing the need to have a more active force, rather than our static past," according to Dr. Tomohiko Satake of the National Institute of Defense Studies (NIDS).[10] Amphibious operations require an expeditionary nature, and in the defense of Japan, such a force must be capable of immediate deployment in an integrated manner. The initial focus has been on the Western Army Infantry Regiment as the core of the ground component and it must continue to build familiarity with the MSDF, particularly the helicopter destroyers, in order to reach a joint operational capability. "Our President (NIDS) has argued that the Dynamic Defense Force concept should be characterized by being swift, seamless, and sustainable. I think this concept is quite relevant to today's Japanese situation, especially in terms of the defense of offshore islands," said Satake.[11]

The three services within the SDF do not have a long history of training and operating together, but that is of the utmost importance, as amphibious operations require a joint force. "The Dynamic Defense Force concept is important and relevant, but all three services and MOD officials have different ideas about it and there is little effort at coordination going on; each of the services are analyzing and training to the concept independently," according to Mr. Tetsuo Kotani, Research Fellow at the Japan Institute of International Affairs.[12] A 1998 joint exercise on Iwo Jima Island was the first time the SDF conducted a tri-service training evolution under a single command.[13] The 2006 establishment of the Joint Staff Office brought an entity focused on operations while the staff offices of the three services were responsible for maintenance and training; such a mechanism was critical to dispatching a joint task force in response to the March 11 triple disaster.[14] "Under Dynamic Defense Force we are now considering cross-domain capabilities including sea-air, sea-land, and air-land. Cross-domain is very important and challenging for us. The biggest issue we face is mobility," said Atushi Segawa, Deputy Director of the Strategic Planning Office in the MOD's Bureau of Defense Policy.[15]

In the 2010 NDPG, under the section on priorities in strengthening SDF organization, equipment, and force disposition, the first area of emphasis is the

[9] Garnaut, John, "China, Japan on the brink," *Sydney Morning Herald*, Feb. 6, 2013.
[10] Author Interview of Dr. Tomohiko Satake, Tokyo, May 8, 2012.
[11] Ibid.
[12] Author Interview of Mr. Tetsuo Kotani, Tokyo, May 1, 2012.
[13] "Japan to stage tri-service exercise under one command," *Jane's Defense Weekly*, (Sept. 23, 1998), available at http://articles.janes.com.
[14] East Asian Strategic Review 2012, *National Institute for Defense Studies* (May 2012), pp. 254.
[15] Author interview of Mr. Atushi Segawa, Tokyo, May 11, 2012.

"strengthening of joint operations" followed by the "response to attacks on off-shore islands."[16] Under both areas, transport capacity is described as key. Although it has caused confusion, and some associate it strictly with mobility, "[the] Dynamic Defense Force goes beyond lift in order to respond to unclear contingencies," said Daisaku Sakaguchi, a retired Ground Self-Defense Force (GSDF) Colonel teaching at the National Defense Academy.[17] The GSDF is moving forward on the directive to become lighter and more mobile by phasing out armor designed for Cold War scenarios, and incorporating the new, lighter Type 10 tanks that can be fit with modular armor for a variety of threat levels.[18] During the Cold War the GSDF armor ranks included 1,200 tanks, but that is now down to around 760 with further reduction plans calling for an armor force of 400 tanks by 2020.[19]

Along with more effective fire support from armor, the movement of ground combat forces continues to receive vital attention. Since its introduction in 2001, over 1500 4X4 Light Armored Vehicles (LAVs) have been introduced into the GSDF to increase mobility.[20] The development of an 8x8 Mobile Combat Vehicle is underway, which seeks to provide high road mobility combined with air transportability to shorten response time during a crisis; fiscal year 2016 is the target to have this vehicle introduced into the GSDF.[21] "Amphibious capabilities are well suited to East Asia, especially during real world operations. I believe this is why the USS Blue Ridge is the flagship of the US Navy's 7th Fleet," said Retired Rear Admiral Kazumine Akimoto, a Senior Fellow at the Ocean Policy Research Foundation.[22] The MSDF currently possesses, and is developing, essential platforms that an amphibious capability would require. The two *Hyuga-class* helicopter destroyers – *Hyuga*, which entered service in March 2009, and *Ise* which did so in March 2011 – lack a well deck but offer the potential for ship-to-objective maneuver from the air. At 197 meters in length, the 18,000-ton vessels have four spots on the flight deck to accommodate three SH-60 *Seahawks* and an MH-53E *Sea Stallion*.[23]

The SDF does possess a limited capability to move ashore on the surface, but key upgrades are needed. The MSDF have three *Osumi* LSTs that possess a well deck, each which can embark either two LCACs that can transport multiple LAVs or one of the heavy tanks in the GSDF inventory. The LCAC and the Landing Craft Utility (LCU) currently in the MSDF inventory offer transport for a range of amphibious operations.[24] According to Colonel Grant Newsham, the Marine Forces Pacific liaison officer to the GSDF, both platforms are not well suited for forcible entry and those limitations also

[16] Japanese Ministry of Defense, *National Defense Program Guidelines* (Tokyo, Dec. 17, 2010), pp. 14.
[17] Author interview of Colonel (Ret) Daisaku Sakaguchi (Yokosuka, April 28, 2012).
[18] Gordon Arthur, "Imperial Defense – Japan counters China's military confidence," *Jane's Intelligence Review*, March 7, 2011.
[19] Fumiaki Sonoyama, "GSDF wants amphibious capabilities of US Marines." *Asahi Shimbun*, Oct. 28, 2012.
[20] Ibid.
[21] Japanese Ministry of Defense, *Defense of Japan*, (Tokyo, Aug. 1, 2011), pp. 184.
[22] Author Interview of Rear Admiral (Ret) Kazumine Akimoto, Tokyo, May 7, 2012.
[23] Japan, *Jane's World Navies*, May 23, 2011.
[24] Ibid.

impact their utility during humanitarian assistance; the GSDF will need a vehicle for a ship-to-objective maneuver in a contested landing and carry to out operations once ashore.[25] In the fiscal year beginning in April 2013, the GSDF plans to acquire four Amphibious Assault Vehicles (AAV-7), the craft currently in service with the US Marine Corps. The MSDF is developing two helicopter destroyers of a new class that will be known as 22DDH, with greater length and displacement that will allow these to embark nine helicopters onboard.[26] In response to the March 11 triple disaster, the USS *Tortuga* got underway from Sasebo, embarked over 90 SDF vehicles and around 300 SDF personnel for transit from Hokkaido to northern Honshu, where *Tortuga* served as a forward service base afloat for helicopter operations.[27]

Persistent Awareness and Presence

The need to enhance situational awareness was also identified in the 2010 NDPG. The *2011 White Paper* explains that, "it is extremely important to carry out activities on a daily basis in order to ascertain the movements of other countries' forces and detect any warning signs of potential contingency." [28] Establishing this presence to conduct surveillance is important operationally, but it also sends a political signal of Japanese intent to defend the territory. According to Professor Yasuyo Sakata of the Kanda University of International Studies, the process is on track, as "Dynamic Defense Force is embedded into the Self-Defense Forces development plans. The importance of Southwestern Islands defense is understood and the establishment of the 15th Brigade Headquarters reflects this." [29] The 2013 defense budget provides funding for the surveillance station located on Yonaguni Island at the far southern end of the island chain, well over 1,000 kilometers from Japan's home islands, where the 15th Brigade will base 100-200 personnel.[30]

The argument to position an adequate military presence of personnel and equipment south of Japan's four main islands is not a new one, but it is important to keep in mind that an absence of presence could potentially be interpreted as a lack of willingness to defend expressed territorial interests.[31] "Sea control and control of the airspace in the Southwest Islands are vital in peacetime," said Professor Sakaguchi of the National Defense Academy.[32] The presence of a combined arms force is essential to dissuade a would-be aggressor from challenging the status quo of Japanese control of the islands. "In this age deterrence is most important and Japan needs to actively display the capabilities of the SDF. To implement this strategy they must actively train, identify

[25] Email Communication with Colonel Grant Newsham (May 2012).
[26] Gordon Arthur, "Imperial Defense – Japan counters China's military confidence," *Jane's Intelligence Review* (March 7, 2011).
[27] Andrew Feickert and Emma Chanlett-Avery, "Japan 2011 Earthquake: US Department of Defense (DOD) Response," *Congressional Research Service* (June 2, 2011), pp. 6.
[28] Japanese Ministry of Defense, *Defense of Japan* (Tokyo, Aug.1, 2011), pp. 150.
[29] Author interview of Professor Yasuyo Sakata, Tokyo, April 23, 2012.
[30] Kirk Spitzer, "A Modest Proposal for Defending Japan's Islands," *Time*, Oct. 25, 2012.
[31] Grant Newsham, "US Must clearly back Japan in islands dispute with China," *Christian Science Monitor*, Oct. 25, 2012.
[32] Author interview of Colonel (Ret) Daisaku Sakaguchi (Yokosuka, April 28, 2012).

shortcomings, and re-train to address these concerns," according to Dr. Satoru Nagao, Research Fellow at the Ocean Policy Research Foundation.[33]

It will take sustained effort to develop an understanding of the operational implications of this geography, as 47 percent of the SDF's total training area is located on Hokkaido, the northernmost and second largest of Japan's four main islands.[34] In 2010, the SDF started an area group-sized field training exercise in the vicinity of the offshore islands with all three services to improve deployment capabilities that would be needed to contend with a range of scenarios. In the mid-2000s a contingent of foreign military officers called on a GSDF unit in Kyushu with responsibilities for the southern island's defense. They discovered a lack of doctrine and planning to operate in the region. The briefing officer candidly admitted they had no means of lift and that he would have to call his air and maritime counterparts to see what they had available in the case of an emergency.[35] The increased attention towards Japan's Southwest Islands from its political and military leadership must be sustained to realize a joint amphibious capability to contend with threats to these offshore islands.

Japan-US Alliance Opportunity

Sound cooperation between Japan and the US is essential to realizing an amphibious capability in the SDF and it offers a real chance for the alliance to address the security challenges along Japan's Southwest Islands. When former Defense Minister Satoshi Morimoto took up his post in June 2012, he made explicitly clear his intent to focus on the alliance relationship. "The most important task for people who think about Japan's national security and build its policy is making the alliance even more reliable," said Mr. Morimoto.[36] Prime Minister Shinzo Abe has signaled how strengthening the alliance will be prioritized during his time in office. While he will certainly govern differently than his Democratic Party of Japan (DPJ) predecessors, both parties agree on the need to place greater emphasis on defense of the Southwest Islands along with the need to enhance the ability of the SDF to respond to contingencies there.[37]

Interoperability

The evolving security environment in Japan's periphery has led to calls for an updated Roles, Missions, and Capabilities Review, as the most recent one was done in the 1990s. While Japan has long possessed robust platforms that could be employed offensively, the issue returned to the forefront in February 2013 as Prime Minister Abe reconvened the advisory panel that he setup as Prime Minister in 2007 that tackled the issue of Japan's right to Collective Self-Defense.[38] While the enhancement of Japan's

[33] Author interview of Dr. Satoru Nagao (Tokyo, May 2, 2012).
[34] Japanese Ministry of Defense, *Defense of Japan* (Tokyo, Aug. 1, 2011), pp. 161.
[35] Kirk Spitzer, "A Modest Proposal for Defending Japan's Islands," *Time*, Oct. 25, 2012.
[36] Yuka Hayashi, "Japan to Boost Defense in the Pacific, Minister Says" *Wall Street Journal* (June 25, 2012).
[37] Rod Lyon, "Japan's Strategic Outlook," *ASPI Special Report* 44 (December 2011) pp. 7.
[38] "Abe restarts discussions on collective self-defense," *Asahi Shimbun* (Feb. 9, 2013).

capability is a welcome one, the US forces will continue to have an essential role in the defense of Japan. "With respect to Article 9, anything that has to do with territorial defense is acceptable. Strengthening Southwest Islands defense through an amphibious capability is legally well within Article 9," according to Professor Yasuyo Sakata of the Kanda University of International Studies.[39] The 2012 Armitage-Nye Report on the alliance calls for an objective of integrated operational competency eventually leading to a Japan-US joint task force for contingency response.[40]

Bolstering Japanese capability with respect to the defense of offshore islands should not be seen as separate from the Japan-US Alliance.[41] The enhancement of Japan's ability to defend offshore islands and conduct amphibious operations envisions a JSDF that can operate more effectively and efficiently with their US counterparts.[42] The 2010 NDPG calls for developing and deepening the alliance to adapt to evolving security conditions as well as operational cooperation with respect to situations in areas surrounding Japan.[43] It is essential to think of the US contribution to alliance operations as going beyond those forces that are forward deployed in Japan. There is recognition that access is no longer assured as it once was and the threat of it being denied demands attention, as this has the potential to undercut US commitments to allies such as Japan who fall within range of precision weapons from potential regional opponents.[44] The US Senate approved an amendment to the 2013 National Defense Authorization Act reaffirming that the Senkaku Islands are administratively controlled by Japan and that they fall under the US-Japan Treaty of Mutual Cooperation and Security.[45]

Ground Self-Defense Force-Marine Corps Cooperation

The US Marine Corps, working closely with the US Navy, possesses experience and institutional knowledge to support the JSDF in developing the ability to carry out amphibious operations. During the May 2012 2+2 statement, Japanese and US officials emphasized combined training in the territories of Guam and the Northern Marianas where shortly after that the Western Army Infantry Regiment took part in a first-ever month-long series of training events focused on amphibious operations with their US Marine counterparts. This culminated in an exercise on Guam that simulated an amphibious landing to retake an island, where Marine Lieutenant General Kenneth Gluek observed, "it takes many, many training evolutions to develop and maintain your proficiency, but over the next year, I believe they should be able to develop a very credible capability."[46] GSDF Chief of Staff General Eiji Kimizuka observed the training

[39] Author interview of Professor Yasuyo Sakata, Tokyo (April 23, 2012).
[40] Richard Armitage and Joseph Nye, "The US – Japan Alliance: Anchoring Stability in Asia," *A Report of the CSIS Japan Chair* (August 2012), pp. 12.
[41] Hillary R. Clinton, "Remarks with Vietnamese Foreign Minister Pham Gia Khiem" (Hanoi, Oct. 30, 2010) available at www.state.gov.
[42] Email Communication with Colonel Grant Newsham (May 2012).
[43] Japanese Ministry of Defense, *National Defense Program Guidelines* (Tokyo, Dec. 17, 2010), pp. 8
[44] James Holmes, "US Confronts an Anti-Access World," *The Diplomat* (March 9, 2012).
[45] US Reaffirms Senkaku Defense, *The Daily Yomiuri* (Dec. 2, 2012).
[46] Kirk Spitzer, "What Crisis? US Marines and Japanese Troops Train for War," *Time* (Sept. 23, 2012).

in Guam, where he emphasized the importance of preparing equipment and training towards an amphibious capability so that the GSDF can have the functions of Marines.[47]

This increased emphasis builds upon existing efforts, especially Exercise Iron Fist, a bilateral amphibious exercise that has been conducted annually in California since 2006. An infantry company from the Western Army Infantry Regiment engages in training in amphibious maneuver, securing a beachhead, and preparing for the deployment of follow-on forces during this evolution.[48] "The task to defend or retake offshore islands is becoming the main mission for the GSDF, but the lack of experience in carrying out a landing mission from the sea is a key challenge. Training exercises such as Iron Fist with the Marines are particularly valuable for our unit commanders," according to Atsushi Segawa of the MOD's Defense Policy Bureau.[49] During Iron First 2013, the Japanese Regimental Commander, Colonel Matsushi Kunii stated that the SDF's objective is to build a structure that integrates air, ground, and maritime forces.[50] The Marine Corps traditionally will deploy as an air-ground task force and the long-term vision should be to operate in a combined manner in a Japan-US joint task force capability.[51]

As the US carries out the "rebalancing" to the Asia-Pacific region, the Marines will have a critical role, as they possess the ability to rapidly insert decisive military force from amphibious vessels from which they can sustain operations ashore.[52] The MV-22 *Osprey* tilt-rotor, multi-mission aircraft is a key part of this as it brings greater range and speed to transport expeditionary forces. In March 2012 the Navy-Marine Corps team conducted its largest amphibious exercise in over a decade, Bold Alligator, off the coast of North Carolina. The *Osprey* aircraft carried out a raid, inserting sea-based forces 180 miles inland, but it also landed on a T-AKE auxiliary vessel which increases commanders' flexibility with its expanded range to connect with supply ships.[53] Okinawa-based *Osprey* aircraft took part in the November 2012 Exercise Forager Fury, which focused on the aviation component of a Marine Air-Ground Task Force, where they transported personnel and equipment to Tinian, around a 1,500-mile transit that surpasses the range of the CH-46 helicopters that it replaces would be able to fly.[54] The forward deployment of the MV-22 strengthens the defense of Japan.

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[47] Fumiaki Sonoyama, "GSDF wants amphibious capabilities of US Marines," *Asahi Shimbun* (Oct. 28, 2012).
[48] Japanese Ministry of Defense, *Defense of Japan* (Tokyo, Aug. 1, 2011), pp. 226.
[49] Author interview of Mr. Atsushi Segawa, Tokyo (May 11, 2012).
[50] Fuentes, Gidget, "With USMC help, Japan flexes more muscle," *Marine Corps Times* (Feb. 17, 2013).
[51] Richard Armitage and Joseph Nye, "The US – Japan Alliance: Anchoring Stability in Asia," *A Report of the CSIS Japan Chair* (August 2012), pp. 12.
[52] Loren Thompson, "US Navy's Shift to the Pacific: A Boon for Marine Corps' Mission," *Forbes* (June 4, 2012).
[53] Robin Laird. Bold Alligator: A Glimpse of Marine, Navy Future," *AOL Defense* (March 21, 2012).
[54] Paul D. Shinkman, "As US Draws Down, Military Hits 'Reset' Button: Marines, Army get back to pre-9/11 roots," *US News* (Nov. 26, 2012).

Working together to build a Japanese amphibious capability offers an opportunity to better articulate the critical role of forward-deployed US forces for regional security. The *2011 Defense White Paper* explains "the stationing of US forces in Okinawa – including the US Marine Corps which has high mobility and readiness and is in charge of first response for a variety of contingencies, contributes greatly not only to the security of Japan but also to the peace and stability of the Asia-Pacific region."[55] The increased integration between US Marines and their Japanese counterparts can also contribute to a more politically sustainable US force posture. The constant interaction between Japanese and US naval personnel is an important example to emulate and this has led to increasingly critical roles for the MSDF in US-led multilateral exercises. During Exercise Rim of the Pacific 2012, MSDF Rear Admiral Fumiyuki Kitagawa served as the Deputy Commander of the Joint Task Force that consisted of some 48 ships and submarines, 200 aircraft, and over 25,000 personnel from 22 nations.[56]

The December 2010 NDPG calls for Japan to be engaged in multi-layered security cooperation to further stabilize the region. "The Japan-US Alliance has evolved over time, but what hasn't changed fundamentally, and what will not change, is the fact that the alliance plays an extremely important role in promoting peace and stability in the Asia-Pacific region," according to former Defense Minister Morimoto.[57] Developing the capacity for amphibious operations helps answer the NDPG requirements for a "Dynamic Defense Force." Australia is a natural fit to partner and train with, especially being the first country outside of its alliance with the US that Japan has signed a joint declaration on security matters with. As US Marine rotations to Darwin grow and the 2nd Royal Australian Regiment continues to train towards meeting the ground component requirement for Australia's future amphibious capability, this presents favorable circumstances for combined amphibious training.[58] In addition, Canada, New Zealand, and South Korea are also pursuing joint maritime expeditionary capabilities; thus training with the US, particularly Marines, would contribute to broader interoperability.[59]

While Japan must weigh broad issues of policy as it manages its complicated bilateral relationship with China, it is important to evaluate the impact of dissuasion through security cooperation. Such considerations caused an abrupt shift in the conduct of Exercise Keen Sword in November 2012, which involved over 47,000 Japanese and US military personnel. The Western Army Infantry Regiment and Marines stationed in Okinawa were to conduct a drill to re-take an island held by an enemy force by an amphibious assault, but Japanese officials made the decision in October to cancel this drill, as this was deemed as too provocative because it would take place during the Chinese Communist Party's 18th Party Congress. Such questions will certainly arise again and the development of Japan's amphibious capability must continue to move forward.

[55] Japanese Ministry of Defense, *Defense of Japan* (Tokyo, Aug. 1, 2011), pp. 273.
[56] Spitzer, Kirk Spitzer, "Japan Takes Command, but Don't Tell Anyone," *Time* (June 28, 2012).
[57] Yuka Hayashi, "Japan to Boost Defense in the Pacific, Minister Says," *Wall Street Journal* (June 25, 2012).
[58] Max Blankin, "Defense Develops New Amphibious Capability," *The Australian* (Aug. 2, 2012).
[59] Richard Armitage and Joseph Nye, "The US – Japan Alliance: Anchoring Stability in Asia," *A Report of the CSIS Japan Chair* (August 2012), pp. 12.

Cancelling it did nothing to limit the Chinese response as they condemned the exercise, rejecting Japanese efforts to woo "extraterritorial nations for joint military drills that only increase regional tensions," while PLA Marines continue to conduct drills where they retake contested islands.[60] As former Foreign Minister Koichiro Gemba emphasized in his November 2012 article in the International Herald Tribune, the concern over China dispatching vessels to upset the status quo in areas such as the Senkaku Islands through coercion is a very real one.[61] Enhancing engagement between the GSDF and their Marine counterparts moves the alliance forward focused on a capability directly relevant to the security challenges along Japan's Southwest Islands.

Operational Applicability and Resolve

The most critical reason for Japan to develop an amphibious capability is to provide Japan's political leadership with options, both to shape the security environment and to respond to a range of crisis scenarios when needed. Following the completion of a People's Liberation Army Navy (PLAN) drill in the Western Pacific in early December 2012, two guided missile destroyers and two missile frigates from the North Sea Fleet patrolled the waters around the disputed islands for several hours.[62] This was the second time PLAN vessels had patrolled such waters after the nationalization of the three islands in September 2012. In March 2010, China formally implemented its Law on Island Protection in which it claims territorial rights on the Senkaku Islands, to include the continental shelf in the waters of Okinawa, arguing this provides their legal basis to patrol these waters.[63] The present dynamics of territorial disputes in the East China Sea signal that the issue will not likely be resolved in the near term. China has indicated it will survey the disputed islands in 2013 as part of a larger project of island and reef mapping.[64]

While plans are in place to establish a GSDF presence in the far Southwest Islands, the situation for approximately 10,000 Japanese people who reside on the four Sakishima islands of Miyako, Ishigaki, Iriomote, and Yonaguni, is that there previously has been no SDF presence south of the main islands of Okinawa.[65] While Prime Minister Abe's government will approach defense policy differently than his predecessor, this is an area that they can build upon past efforts. The Dynamic Defense Force principle

[60] Mark McDonald, "Despite Tensions, US and Japan Begin a New Set of War Games," *New York Times* (Nov. 4, 2012).
[61] Koichiro Gemba, "Japan-China Relations at a Crossroads," *International Herald Tribune* (Nov. 23, 2012).
[62] Minnie Chan, "Chinese Warships to become a common feature around Diaoyus." *South China Morning Pos*t (Dec. 12, 2012).
[63] Daisaku Sakaguchi, "Distance and Military Operations: Theoretical Background toward Strengthening the Defense of Offshore Islands," *NIDS Journal of Defense and Security* (December 2011), pp. 100.
[64] Jason M. Frazee, Brock Jones, and Scott D. McDonald, "Phase Zero: How China Exploits it, why the United States does not," *Naval War College Review* 65, no. 3 (Summer 2012), pp. 123.
[65] Daisaku Sakaguchi, "Distance and Military Operations: Theoretical Background toward Strengthening the Defense of Offshore Islands," *NIDS Journal of Defense and Security* (December 2011), pp. 102.

called for an active use of the SDF during regular conditions in order to provide deterrence and stabilization, particularly along the Southwest Islands.[66] The regular presence of forces would require support to sustain such deployments, an opportunity to focus on enhancing Okinawa Island, which could become a transport hub for forces transiting from Kyushu to Sakishima.[67]

Regional Utility

The Japan of today is not the Japan of the 1930s, despite such rhetoric coming from China.[68] The perspective of other regional countries has also evolved as MSDF vessels call on ports in countries that previously expressed fears of a Japanese military resurgence.[69] In December 2012, just days before Japan's Lower House election, the Philippines took the unusual step of stating that it would strongly support a decision in Tokyo for a rearmed Japan without the constraints of its pacifist constitution as a counterweight to China.[70] Japan can bolster its defense in the Southwest Islands through an amphibious capability while remaining wary of actions that Beijing would seize upon to decry the return of "militarism" in Japan. JCG Commandant Takashi Kitamura captured this balance well in a December 2012 speech stating that they are prepared to respond to a growing Chinese presence, but he expressed a willingness to reduce patrols around the disputed islands if the Chinese cut back on their maritime activities in the vicinity.[71]

Japan has responded in support of numerous international disaster relief operations and with the frequency of natural disasters attributed to seismic activity in the Pacific "ring of fire," such tragedies are expected to continue. Indonesia requested Japanese transport support following the December 2004 Tsunami that struck the coast of Aceh. Three MSDF ships deployed and delivered essential relief supplies, but it was their LCACs that transported engineering vehicles needed to clear isolated areas in order to re-establish the road network that connects Banda Aceh with southwestern districts which was cited as of particular value to local authorities.[72] The ability to operate from a sea-base of amphibious ships allows commanders to task and organize the force that will go ashore in order to meet the specific needs of local authorities. As the SDF has limited experience operating jointly, developing an amphibious capability is an opportunity to

[66] East Asian Strategic Review 2012, *National Institute for Defense Studies* (May 2012), pp. 253.
[67] Daisaku Sakaguchi, "Distance and Military Operations: Theoretical Background toward Strengthening the Defense of Offshore Islands," *NIDS Journal of Defense and Security* (December 2011), pp. 104
[68] Grant Newsham, "US Must clearly back Japan in islands dispute with China," *Christian Science Monitor* (Oct. 25, 2012).
[69] Martin Fackler. "Japan Flexing its Military Muscle to Counter a Rising China," *New York Times* (Nov. 26, 2012).
[70] Roel Landingin, David Pilling, and Jonathon Soble, "Philippines backs rearming of Japan, *Financial Times* (Dec. 9, 2012).
[71] "Coast Guard Chief explains Japan's plan to protect Senkakus," *The Mainichi* (Dec. 13, 2012).
[72] Hassan Ahmad, Jean-Yves Haine, Josefina Lofgren, Sharon Wiharta, and Tim Randall, "The Effectiveness of Foreign Military Assets in Natural Disaster Response." *Stockholm International Peace Research Institute* (March 2008), pp. 94.

increase its proficiency in this area. An amphibious force operating from a sea-base facilitates the implementation of joint command and control early in an expeditionary operation.[73]

The initial signals from Prime Minister Abe recognize the importance of reinforcing its relationships in Southeast Asia, as Foreign Minister Fumio Kishida's first trip included the Philippines, Singapore, Brunei, and Australia followed by the Prime Minister traveling to Vietnam, Thailand, and Indonesia.[74] An amphibious capability is a sound platform for engaging regional partners and it would complement the MSDF Overseas Training Cruise. Developing such a capability would significantly improve readiness in order to contend with threats to Japan's Southwest Islands and it would provide political leaders with a means to respond to this challenging environment that shows no signs of abating. The growing presence and intensity of actions from Chinese maritime forces in regional waters increases the urgency for Japan to field an amphibious capability that can respond to a range of crises.

Conclusion

Developing an amphibious capability within the SDF is a sound way to address requirements identified in current Japanese defense thinking. The shift from a static past to a more dynamic SDF that can rapidly respond to contingencies in the Southwest Islands has garnered support from both Prime Minister Abe's LDP and his predecessors from the DPJ. Japan has a lot that it can build upon to realize such a capability, including existing hardware and key military exercises that it conducts with its ally, the US. Cooperation with the US can help address the inherent joint nature of amphibious operations and the development of doctrine within the SDF. Closer integration with their US Marine counterparts can contribute towards a more politically sustainable forward deployment of forces in Okinawa. Japan must contend with the growing military capabilities of China and the robust presence of Chinese vessels in the East China Sea. An amphibious capability helps address the need for increased deterrence by contributing to a greater force presence along the Southwest Islands, but it also presents an opportunity to support Japanese engagement in Southeast Asia, particularly in carrying out relief operations in disaster-stricken areas.

[73] Geoffrey Till, "Naval Transformation, Ground Forces, and the Expeditionary Impulse: The Sea-Basing Debate," *US Army War College Letort Papers* (December 2006), pp. 17.
[74] James Hookway and Alexander Martin, "Japan seeks closer ties in Southeast Asia," *Wall Street Journal* (Jan. 13, 2013).

Addressing Space and Cyber Issues as an Alliance

By Vincent Manzo

Understanding how competition and vulnerability in space and cyberspace affects deterrence, escalation, and employment is a critical challenge for the United States and Japan. This essay explores the challenge from a US perspective and concludes with a discussion about how the US-Japan Alliance might address these difficult issues together.

Competition and Vulnerability in Emerging Strategic Domains

During the past four years, the White House released an official National Space Policy and an International Strategy for Cyberspace. The Department of Defense (DoD) released a National Security Space Strategy, a Strategy for Operating in Cyberspace, a Cyberspace Policy Report, and most recently, a Strategy for Deterrence in Space. These official statements reflect that space and cyber capabilities permeate every facet of US society. Dependence on space and cyberspace creates both strategic advantages and vulnerabilities and raises conceptual, legal, and operational challenges for US policy.

The United States currently identifies land, air, sea, space, and cyberspace as distinct domains, and many US military capabilities and most US military operations depend on contributions from multiple domains at a time. Satellites and computer networks enhance the effectiveness of US ground, air, and naval forces by enabling unrivaled communication; advanced intelligence, surveillance, and reconnaissance; reliable navigation; and precision strikes.

An adversary might attack US assets in space and cyberspace to disrupt, or at least degrade these capabilities, and weaken the US forces in other domains that depend on them. Currently, US strategists are uncertain how the United States would defend against, deter, and respond to these types of attacks in conventional conflicts with other states. In particular, they are concerned that a blinding attack or first strike on US satellites and computer networks would leave US forces blind, deaf, and dumb – and much less capable of marshaling conventional weapon systems and executing effective military operations at the onset of a war.

Three aspects of this interplay would increase the risks of miscalculation and unintended escalation. First, the United States has limited experience with conflicts where cyber and space capabilities are vulnerable to direct attacks, and US analysis of how to respond to nonkinetic military attacks is inchoate. This vacuum makes it harder for adversaries to assess likely US responses to counter-space and cyber-attacks. Second, the attributes of counter-space and cyber-attacks create challenges. They can vary widely in scope and intensity, much more so than conventional weapons; even the experts are uncertain about precise effects potential cyber-attacks might have and whether they might cascade beyond their intended targets.[1] US officials may be unable to accurately assess in

[1] National Research Council, *Technology, Policy, Law, and Ethics Regarding US Acquisition and Use of Cyberattack Capabilities* (Washington, DC: National Academies Press, 2009), 121-128. As an

real-time whether an attack took place, against which targets, and for what purpose. Third, space and cyber capabilities underpin US command, control, communications, and intelligence surveillance and reconnaissance capabilities. These capabilities make the US military more lethal and effective, but they also enable it to show restraint. Without the ability to communicate clearly and quickly, assess what is and is not happening on the battlefield, such as damage assessment and detecting enemy missile launches, and operate with precision, it would be more difficult for the United States to limit the scope and intensity of a conflict.

As a result, US and foreign officials will interpret hostile acts in these domains, and the appropriate responses, differently, creating conditions for miscalculation and misperception. Adversaries might view counter-space and cyber-attacks as low-risk operations that shape the battlefield in their favor before an armed conflict has even started; they might even think that this would cause US officials to concede instead of fighting. But the United States might interpret such attacks as a sign that the war has started, that US forces in the physical world are less capable and more vulnerable, and that a rapid, strong response, possibly with conventional weapons, is necessary. A related danger is that an attack will have unintended effects, or that the United States misinterprets the purpose or effects of the attack, both of which could trigger a response the attacking state did not anticipate.

Two fundamental questions underlie these uncertainties: are attacks on satellites and computer networks that support military capabilities the first shot in the war or part of the inevitable maneuvering and posturing that occurs when armed conflict is more likely? What effect must these types of attacks have to justify military responses, especially military responses in the physical world, such as launching cruise missiles?

These questions do not have definitive answers. But developing a more stable deterrence relationship with potential adversaries, by reducing the likelihood for miscalculation, requires that both countries better understand how the other thinks about these issues. Foreign leaders will never know precisely how the United States would respond to certain types of counter-space and cyber-attacks; however, the United States needs them to have a sense of the spectrum of response options that would be under consideration. For example, if the networks supporting US deployed forces started failing during a crisis with another country, the options the President would consider might range from nonkinetic interference with the adversary's military sensors to kinetic attacks on its conventional strike capabilities. A prudent deterrence strategy would convince potential adversaries that US officials might feel compelled to take these actions, not for the sake of persuading them to agree that such responses are justified, but to ensure they understand the likely consequences before authoring an attack.

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example, US and Israeli officials reportedly did not intend on the the Stuxnet computer virus spreading beyond its initial target, which was isolated from the internet, David Sanger, *Confront and Conceal: Obama's Secret Wars and Surprising Use of American Power* (New York, NY: Crown Publishers, 2012), Chapter 8.

US declaratory policy is a solid first step. Recent policy documents explain that the United States would interpret and respond to hostile acts in these domains based on their effects and the context in which they occur. The *DoD Cyberspace Policy Report* stated, "As in the physical world, a determination of what is a 'threat or use of force' in cyberspace must be made in the context in which the activity occurs, and it involves an analysis by the affected states of the effect and purpose of the actions in question."[2] DoD's most recent statement about deterring counter-space attacks is more specific: "Hostile acts in space take place in a broader, geopolitical context. Those acts are undertaken to achieve some effect on Earth, whether it be obtaining an operational advantage in another domain or obtaining a desired political or social effect." [3] Accordingly, US reprisals might occur in different domains against different types of targets; a proportionate response to an attack on a satellite "may not be limited to the space domain, but rather will occur at the time and place of our choosing."[4]

These statements contain an important deterrence message: *if your attack on our networks or satellites has a profound effect on the United States, the US response, whatever it may be, will have a profound effect on you*. For example, if a counter-space attack in a crisis renders US forces much less capable of defending against and responding to conventional missile strikes, the United States might counter with air or naval capabilities against targets on land, air, or sea, because that is what the situation requires. At a minimum, this should help raise the level of risk that potential adversaries associate with counter-space and cyber operations and convince them that they cannot mount significant attacks against the United States in these domains without courting war.

Implications for US-Japan Alliance

The United States is beginning to adjust to competition and vulnerability in space and cyberspace. Looking forward, the United States probably needs to reiterate its declaratory policy and continue incorporating space and cyber issues and policy coordination into its relationships with other countries, especially allies. The United States and Japan, as an example, could coordinate declaratory policy and consult over response options. Revising the Japan-US Security Treaty to include counter-space and cyber-attacks would remove any ambiguity surrounding US security commitments in these domains and lay the groundwork for further collaboration.[5] Exploring how the alliance would respond to different types of counter-space and cyber-attacks in different contexts is also important because capabilities and realistic response options for defending interests and achieving objectives are pillars of a credible deterrence strategy.

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[2] Department of Defense, *Department of Defense Cyberspace Policy Report* (Washington DC: Department of Defense, November 2011), 9.

[3] Department of Defense, Fact Sheet: *DoD Strategy for Deterrence in Space* http://www.defense.gov/home/features/2011/0111_nsss/docs/DoD percent20Strategy percent20for percent20Deterrence percent20in percent20Space.pdf

[4] Ibid; see a similar statement about responses to cyber-attacks, see *Department of Defense Cyberspace Policy Report*, 4.

[5] Mihoko Matsubara, "A Long and Winding Road for Cybersecurity Cooperation between Japan and the United States," *Harvard Asia Quarterly* (Spring/Summer 2012, Vol. XIV, No. 1 & 2).

Bilateral tabletop exercises may be a useful methodology for analyzing response options. Preparing for attacks in space and cyberspace raises abstract questions: when is a kinetic response proportionate to a non-kinetic attack? How would US officials monitor, assess, and coordinate actions during a conflict that is unfolding in multiple domains? Plausible yet hypothetical scenarios, in which participants must identify what options the President needs, would provide a context for analyzing these issues.[6]

US-Japanese bilateral tabletops would be a valuable way for the alliance to tackle these difficult conceptual and operations questions together. This paper has thus far discussed new domains, deterrence, escalation, and employment from a US perspective, but the United States must prepare to navigate crises and conflicts with its allies. Preparing for and reacting to attacks on space and cyber targets, whether they are US, Japanese, or joint-operated, requires that officials from both countries possess similar conceptual frameworks and vocabulary. Tabletop scenarios could include a range of crises and conflicts; potential adversaries; and a variety of provocations, attacks, and threats involving space and cyber assets. These exercises would focus on discussing the issues and questions associated with different incidents and response options rather than endorsing specific courses of action.

Exercises at the official level would be classified, enabling policymakers and their staff to have creative discussions about decisions and risks and include specific countries, scenarios, plans, and capabilities. Unclassified exercises organized by track-2 dialogues would make unique contributions as well. Track-2 tabletops could include independent analysts and scholars, thereby drawing more perspectives into the discussions. Since they would not include classified information, they could also publish after-action reports and analyses that stimulate further research and debate in the policy community. On average, a robust public debate would reduce the potential for miscalculations by further conveying to potential adversaries how US and Japanese officials perceive threats and reprisals in these new domains.

[6] For arguments about the value of tabletop exercises, see Paul Bracken, *The Second Nuclear Age: Strategy, Danger and the New Power Politics* (New York: Times Books, 2012) and Amy Zegart, "The Fog of War Game," *Foreign Policy*, Feb. 27, 2013 http://www.foreignpolicy.com/articles/2013/02/27/the_fog_of_war_game?page=full

A Long and Winding Road for Cybersecurity Cooperation between Japan and the United States

By Mihoko Matsubara

This paper originally appeared in the Harvard Asia Quarterly, Spring/Summer 2012, Vol. XIV, No. 1 & 2.

Abstract: Tokyo and Washington publicly announced their cooperation on cybersecurity for the first time in June 2011. As two of the most economically and politically powerful actors in the world, both Japan and the United States have more to lose than most other countries in the face of cyber threats. Thus, they are obliged to reduce their vulnerabilities in order to prevent negative consequences for the international community. Japan and the US need to cover cyberspace in the Security Treaty and establish the rules of engagement in the domain. In the short run, timely information-sharing is key to responding to cyber-attacks and espionage and preventing further damage. Furthermore, Tokyo needs to reconsider the Self-Defense Forces (SDF)' offensive cyber capabilities, revise the SDF Law to cover cyber domain as a new area of responsibility, and strengthen information security and assurances. Such measures would truly contribute to cybersecurity cooperation and a stronger alliance.

Introduction

Cybersecurity is attracting attention amidst the mounting uncertainty caused by invisible malicious actors who pose annoyance threats, commit cybercrimes, and pursue cyber espionage and attacks via destructive computer codes. The anonymous and borderless nature of the Internet helps those actors. The rapid development of information and communications technology (ICT) has been critical to the effectiveness of operations and business, but better connectivity has also introduced economic, social, and security vulnerabilities. Because it is difficult to attribute the origin of these attacks, in both the public and the private sectors, governments and companies can be overwhelmed by the size and scope of threats. Threats in cyberspace include unintentional network failure, theft, hacktivism, pranks, data extraction or falsification, and the destruction of network elements or infrastructure, including power grids. The reach of the Internet further enables these threats to spread across borders.

Countries are now realizing the immense scale of these challenges and are recognizing the need to cooperate to find solutions given the new, complicated, and transnational nature of cybersecurity. But although international collaboration is essential, a multilateral collaborative framework is not necessarily feasible. Countries with varied security interests may struggle to share sensitive information concerning their own vulnerability which, in turn, hampers their ability to predict or prevent malicious acts in the cyber domain. Their ability to identify common ground and establish an international standard in controversial areas such as privacy and regulations is also stymied, which may have an adverse impact on economic growth. By contrast, while still difficult, allies are in a better position to cooperate on cybersecurity challenges because of mutual trust in intelligence sharing and shared security interests and priorities.

As economic and political powers, Japan and the US have arguably more sophisticated technology to protect and even more sensitive information to safeguard than any other country in the world; it is thus essential that Tokyo and Washington pursue and strengthen cooperation on the cybersecurity front. This paper aims first to identify threats and issues faced by Japan and the United States in cyberspace. The second section examines the current status and impediments to cybersecurity cooperation in the international community. It further explores how allies can overcome challenges and how Tokyo and Washington can work together in areas including the revision of the Security Treaty, the establishment of rules of engagement, joint exercises, and an information-sharing system. Finally, this paper analyzes what Tokyo might do in cooperation with Washington to combat cyber-attacks and espionage, especially with respect to information sharing and overcoming constitutional constraints on offensive capabilities to create a better defense.

CURRENT CYBER THREATS AND ISSUES IN JAPAN AND THE UNITED STATES

Information technology constitutes the sinews of modern infrastructure, and cybersecurity is essential. Unfortunately, it is also expensive. The number of devices connected to the Internet, including mobile devices, totaled 12.5 billion in 2010. The number will double by 2015 and quadruple by 2030.[1] Governments, militaries, companies, and individuals have more assets to protect, facing more vulnerability as a result of the technological improvements in connectivity and productivity. Major threats faced by Japan and the United States include espionage that aims to extract sensitive information and technology from governments and the defense industry, as well as to attack critical infrastructure such as power, oil, gas, and water.[2]

Mounting cyber-attacks against the US defense community could threaten national security. On a nearly daily basis, the US Department of Defense (DOD) finds over 60,000 new malicious software programs or variations that pose security threats.[3] Major defense contractors such as Lockheed Martin and Booz Allen Hamilton (BAH) have been targets as well: hackers stole 90,000 email addresses and passwords from BAH in 2011.[4]

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[1] Dave Evans, "How the Internet of Things Will Change Everything – Including Ourselves," *Cisco Systems*, May 17, 2011, accessed Dec. 27, 2011, http://blogs.cisco.com/news/how-the-internet-of-things-will-change-everything percentE2 percent80 percent94including-ourselves/.

[2] "Dramatic increase in critical infrastructure cyber-attacks, sabotage," *Homeland Security News Wire*, Apr. 22, 2011, accessed Dec. 28, 2011, http://www.homelandsecuritynewswire.com/dramatic-increase-critical-infrastructure-cyber-attacks-sabotage.

[3] "News Release No. 608-11: DOD Announces First Strategy for Operating in Cyberspace," US Department of Defense, Jul. 14, 2011, accessed Dec. 27, 2011, http://www.defense.gov/releases/release.aspx?releaseid=14651.

[4] Nick Allen, "Hackers steal 90,000 email addresses in cyber attack on US military contractor Booz Allen Hamilton," *The Telegraph*, Jul. 12, 2011, accessed Dec. 17, 2011, http://www.telegraph.co.uk/technology/news/8631458/Hackers-steal-90000-email-addresses-in-cyber-attack-on-US-military-contractor-Booz-Allen-Hamilton.html.

Although critical infrastructure is a potential target of cyber-attacks and sabotage, organizations remain unprepared to protect it. Many power plants use automation equipment which can be remotely reprogrammed. They are thus vulnerable to supervisory control and data acquisition (SCADA), a computer-based system that monitors and controls industrial, infrastructure, and facility processes.[5] A single wave of cyber-attacks on critical infrastructure can cause damage of over $700 billion, equivalent to the cumulative toll of fifty major hurricanes hitting the United States simultaneously.[6]

Ongoing cyber-attacks and cyber espionage in some contexts aim to create a platform for prospective war. Malicious cyber actors may plant destructive computer codes, which can cripple networks used for critical infrastructure or for the military, and such incidents could hamper business operations in the public and private sectors in the event of a future war.[7] Indeed, the US-China Economic and Security Review Commission warned that the People's Liberation Army (PLA) exploits US government, military, and private sector networks and could use cyber-attacks to "delay or degrade a potential US military response to a crisis."[8]

The urgency of the situation forced Washington to raise its budget for cybersecurity and establish the Cyber Command in 2009 to plan and conduct cyber operations. The US government is more explicit about its cyber strategy than Tokyo and declared that the United States will resort to force over such matters if necessary. The 2010 Quadrennial Defense Review Report designated cyberspace as the fifth domain for DOD activities, in addition to land, sea, air, and space.[9] The White House's international strategy for cyberspace, issued in May 2011 states, "[The United States] reserves the right to use all necessary means," including military, "as appropriate and consistent with applicable international law, in order to defend [the] Nation, allies, partners, and interests."[10]

For its part, Tokyo launched the National Information Security Center (NISC) under the Cabinet Secretariat in April 2005. The Center responsible for crafting national cybersecurity strategy for both the public and private sectors; analyzing cyber-attack

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[5] Joseph Menn, "US power plants vulnerable to cyberattack," *Financial Times*, Oct. 11, 2011, accessed Dec. 27, 2011, http://www.ft.com/cms/s/0/00148d60-c795-11e0-a03f-00144feabdc0.html#axzz1jwG1MSkz.

[6] Stanton Sloane, "Let's stop the billions lost to cyber thieves," *Washington Technology*, Jul. 21, 2011, accessed Jan. 19, 2012, http://washingtontechnology.com/Articles/2011/07/21/Stan-Sloane-cyberattacks-IP-threats.aspx?Page=2.

[7] Motohiro Tsuchiya, interview by author, Keio University, Kanagawa Prefecture, Dec. 14, 2011.

[8] Bryan Krekel, Patton Adams, and George Bakos, "Occupying the Information High Ground: Chinese Capabilities for Computer Network Operations and Cyber Espionage," *US-China Economic and Security Review Commission* 29 (2012), 109.

[9] "Quadrennial Defense Review Report," US Department of Defense, February 2010, accessed Dec. 28, 2011, http://www.defense.gov/qdr/images/QDR_as_of_12Feb10_1000.pdf, 37.

[10] "The International Strategy for Cyberspace – Prosperity, Security, and Openness in a Networked World," The White House, May 2011, accessed Dec. 28, 2011, http://www.whitehouse.gov/sites/default/files/rss_viewer/international_strategy_for_cyberspace.pdf, 14.

reports from these sectors and sharing the information; and serving as a point of contact for coordination with other countries. From a legal standpoint, however, the NISC does not have the authority to obtain information from organizations which have been the victim of cyber-attacks or impose recommended countermeasures except on a voluntary basis. Thus, although the NISC has crafted strategies and recommendations, they are not binding. Furthermore, its Information Security Strategy for Protecting the Nation, issued in May 2010, focuses on explaining problems such as the increase in malware and privacy protection and identifies partners that Japan *should* cooperate with rather than providing specific actions needed to overcome obstacles and outlining *how* it should collaborate with these partners.[11]

Both countries lack sufficient protection, especially for the private sector. Although the United States issued the "Executive Order – Improving Critical Infrastructure Cybersecurity" in February 2013, there is still a long way to go to protect critical infrastructures, given the large number of stakeholders to coordinate and potential targets to defend. Japan is discreet even with respect to releasing the fact of cyber-attacks and espionage. It seems more concerned about losing face by disclosing negative news in public than countering cybersecurity issues based on accurate and timely information. Although cyber-attacks against ministries and defense contractors seem to have been ongoing for at least five years, the media did not begin intensively covering such incidents until 2011.[12] This is when Mitsubishi Heavy Industries (MHI), one of the largest defense contractors in Japan, neglected to report a major cyber incident to the Ministry of Defense (MOD) despite having known beforehand and despite their MOD contract requiring the company to provide notice about any possible information leak. Instead, the Ministry learned of the incident through media reports.[13] Because MHI also manufactures products for the US military, and because interoperability and interdependency between the two countries are progressing, insufficient information-sharing should make Washington nervous.

Despite the rising danger in cyberspace, cybersecurity responsibilities and terminologies are not yet well defined in Japan. The new National Defense Program Guidelines, a long-term Japanese security strategy released in December 2010, argues the importance of strengthening Japan's capability to handle cyber threats and secure stable usage of the cyber domain.[14] Nevertheless, the SDF Law and the Act on Armed Attack Situations have no reference to the cyber domain as an area of responsibility, although the first guideline for cyberspace released by the MOD and SDF in September 2012

[11] "Kokumin wo Mamoru Joho Sekyuritei Senryaku" (Information Security Strategy to Protect the Public), National Information Security Center, May 11, 2010, accessed May 21, 2012, http://www.nisc.go.jp/active/kihon/pdf/senryaku.pdf.

[12] Motohiro Tsuchiya, interview by author.

[13] "Saiba Kogeki Bogyomo Kochiku ha Kuni no Sekinin da" (The establishment of a cyber-defense system is a responsibility of the government), *Tokushima Shimbun*, Oct. 13, 2011, accessed Dec. 28, 2011, http://www.topics.or.jp/editorial/news/2011/10/news_131846712731.html.

[14] "Heisei 23 Nendo Iko ni Kakaru Boei Keikaku no Taiko ni Tsuite" (National Defense Program Guidelines after 2011), The Ministry of Defense, Dec. 17, 2010, accessed Dec. 27, 2011, http://www.mod.go.jp/j/approach/agenda/guideline/2011/taikou.html#besshi.

acknowledges cyber domain as one of the five operational domains.[15] Yet there is currently no plan to revise the legislations. The MOD and SDF are only responsible for attacks against their internal systems. The National Police Agency (NPA) handles cyber-terrorism, intelligence, and crimes, whereas the MOD and the Ministry of Economy, Trade and Industry (METI) analyze cyber-attacks.[16] This also highlights problems with cybersecurity definitions and the tendency to provide stovepipe responses to common access goods.

Thus, while threats and dangers are mounting, the governments have not been able to clarify their responsibilities to protect the private sector's cybersecurity. And because of advanced security cooperation between Tokyo and Washington, a blow to one country or a failure to report could have direct impact on the other one as well.

THE CURRENT STATUS AND CHALLENGES OF INTERNATIONAL CYBERSECURITY COOPERATION

As the negative consequences of malicious acts in cyberspace spread across national borders, the transnational nature of cybersecurity issues requires international cooperation to prevent further damage. Unfortunately, there has been little progress on multilateral cybersecurity cooperation – with the exception of NATO, which established the Cooperative Cyber Defense Centre of Excellence after the cyber-attacks on Estonia in 2007, the first documented attacks against a state.

The incident alarmed the international community by demonstrating how increasing dependence on the Internet can be a point of vulnerability for any government or economy, and how easily a country can fail to function even in the absence of physical attacks. Estonia was especially vulnerable to cyber-attacks because the Internet is available in 98 percent of the territory and the society is heavily reliant on Internet connectivity. For three weeks, government agencies, banks, media organizations, and political parties suffered a wave of massive cyber-attacks in the form of Distributed Denial of Service or DDoS, which swamps websites with thousands of visits, overcrowding bandwidth and disabling them. The Estonian government suspected that the attacks originated in Russia because of the discovery of Russian IP addresses used in the attacks, and because the attacks coincided with the removal of a controversial Soviet-era war memorial. Ultimately, however, the government was unable to uncover concrete evidence of Russian involvement.[17]

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[15] The Ministry of Defense, "Boei-sho Jieitai niyoru saiba kukan no antei-teki koka-teki na riyo ni mukete [How the Ministry of Defense and Self-Defense Forces should use cyberspace stably and effectively]," September 2012, accessed Apr. 10, 2013, http://www.mod.go.jp/j/approach/others/security/cyber_security_sisin.html.

[16] "Information Security 2011," Information Security Policy Council, Jul. 8, 2011, accessed Dec. 29, 2011, http://www.nisc.go.jp/eng/pdf/is2011_eng.pdf, 13-16.

[17] Eneken Tikk, Kadri Kaska, and Liis Vihul, "International Cyber Incidents: Legal Considerations," Cooperative Cyber Defense Centre of Excellence, 2010, accessed Apr. 22, 2012, http://www.ccdcoe.org/publications/books/legalconsiderations.pdf, 15-26.

Since then, multilateral frameworks, such as the ASEAN Regional Forum (ARF) and the London Conference on Cyberspace in November 2011, have tried unsuccessfully to establish laws and guidelines on cyberspace. ARF member countries started to recognize the danger of cyber-attacks and crimes in 2006 and aimed to enact and implement laws against them.[18] The London Conference invited representatives from 60 countries to discuss the economic growth and social benefits brought by the Internet, as well as cybercrime, international security, and safe and reliable access to cyberspace. China and Russia, however, opposed international treaties to regulate the Internet at that conference.[19] To date, the international community has been unable to form a consensus.

There are four impediments to concerted action against cyber-attacks. First, the large number of actors and new and fast-changing technology in cyberspace increases the complexity of collaborating to resolve issues domestically and internationally in a timely manner. Because of the cross-national nature of cybersecurity, different countries have different interests concerning privacy, openness, and the regulation of cyberspace, as well as concern over negative impact on economic growth. Second, information assurance forces governments to avoid providing sensitive information on cyber-attacks to other governments that lack similar levels of security clearance. High-level intelligence still finds it difficult to accurately identify attackers. Even if a government happens to know the timing of future cyber-attacks in another country, non-allies may prefer to avoid the risk of compromising future intelligence collection efforts in revealing information to detect and mitigate cyber threats. Third, both the public and private sectors are reluctant to report damages due to fears about revealing vulnerabilities to further attacks. In particular, private companies are concerned about inviting potential damage to their reputations, benefiting their competitors by sharing information on their products, and they prioritize productivity and revenues over accepting additional regulations.[20] Finally, cybersecurity has the potential to be sidelined, especially in comparison to more visible threats to the economy or military.

Countries understand the necessity of international cooperation given the borderless nature of cybersecurity threats. And yet, their efforts are crippled by their differing interests and priorities, as well as concerns over compromising intelligence capabilities and the revealing of vulnerabilities.

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[18] "ASEAN Regional Forum Statement on Cooperation in Fighting Cyber Attack and Terrorist Misuse of Cyber Space," Ministry of Foreign Affairs of Japan, Jul. 28, 2006, accessed May 21, 2012, http://www.mofa.go.jp/region/asia-paci/asean/conference/arf/state0607-3.html.

[19] Jill Lawless, "London Conference on Cyberspace: Cyber Crime Is Not 'Justification for States To Censor Citizens'," *The Huffington Post*, Nov. 1, 2011, accessed May 21, 2012, http://www.huffingtonpost.com/2011/11/02/london-conference-on-cyberspace_n_1071242.html.

[20] Reyhaneh Noshiravani, "NATO and Cyber Security: Building on the Strategic Concept," Chatham House, May 20, 2011, accessed Dec. 27, 2011, http://www.chathamhouse.org/sites/default/files/public/Research/International percent20Security/200511nato.pdf, 5.

COOPERATION BETWEEN THE ALLIES: JAPAN AND THE UNITED STATES

It is critical (and certainly much easier) to start cooperation among two allies who already share the same interests and can exchange sensitive information. The next logical step would be to expand such a cooperative template to other allies. Allies can overcome at least three of the four aforementioned impediments to international cooperation on the cybersecurity front. First, it is easier for a smaller number of actors to negotiate with one another because allies already share security interests, even if they do not necessarily agree on the means of regulating cyberspace and protecting privacy. Second, allies trust each other's information assurance systems and can exchange sensitive information without fears of potentially compromising their intelligence capabilities. Third, an alliance is in a better position to agree on priorities for collaboration than the wider international community, as allies usually see threats as mutually shared, as well as the need to cooperate to prevent further damaging spillovers. Nevertheless, even among allies, private companies might still hesitate to release information that may benefit their competitors and harm their future business.

On a global level, Japan and the United States face the most pressing needs to cooperate on matters pertaining to cybersecurity. They are the No. 1 and No. 3 economic powers and two of the largest military powers in the world. They have and share state-of-the-art technology for both civil and military purposes, and have more to lose and protect than most other countries. The two countries thus have a responsibility to reduce their vulnerabilities, as cyber-attacks and espionage would pose serious consequences to the international community.

Although Tokyo and Washington issued a joint statement confirming the importance of cybersecurity cooperation for the first time at the US-Japan Security Consultative Committee (SCC) in June 2011, a tangible strategy has yet to be crafted. The statement lacked a clear vision on how to pursue collaboration and does not place any specific responsibility on either Tokyo or Washington. The first Japan-US working level dialogue on cybersecurity was held in Tokyo in September 2011 and included the MOD and Ministry of Foreign Affairs, Department of State, DOD, and Homeland Security.[21] Tokyo and Washington agreed on the need to establish a mechanism to share information on cyber-attacks but a specific procedure has not yet been created.[22] In the meantime, top leaders have begun to realize the dangers posed by cyber threats. Following the summit between Prime Minister Yoshihiko Noda and President Barack Obama in April 2012, the two leaders, for the first time at this most senior level, issued a

[21] "Saiba Kogeki (ge) Sadamaranu Kikikanri Michi no Teki Anpo Nimo Kyoi" (Cyber-attack (2): Vulnerable crisis management – unidentified foes and threats to the alliance), *Nihon Keizai Shimbun*, Oct. 20, 2011, accessed Jan. 17, 2012. http://www.nikkei.com/access/article/g=96959996889DE1E7E5E6E2EAE5E2E0E2E3E2E0E2E3E39F9FEAE2E2E2.

[22] Naohisa Hanzawa and Taisuke Nanjo, "Aitsugu saiba kogeki Koshi omoi seifu, kanmin renkei kizukezu" (Repeated cyber-attacks – Slow response of the government, has not established public-private partnerships yet), *Sankei Shimbun*, Oct. 8, 2011, accessed Dec. 27, 2011, http://sankei.jp.msn.com/politics/news/111008/plc11100801300002-n2.htm.

joint statement that emphasized the importance of expanding cybersecurity cooperation between the governments and the public and private sectors.[23]

To enhance the safety of the cyber domain and counter cyber threats, Tokyo and Washington must take three steps: revise the Japan-US Security Treaty to counter cyber-attacks, make a formal agreement which specifies cybersecurity responsibilities, and launch an information-sharing framework including Japanese and US private sectors to support a partnership between the public and private sectors especially for critical infrastructures. First, the Japanese and the US governments must include cybersecurity cooperation in their Security Treaty to collaborate on cyber-attacks; the current treaty does not explicitly cover cyberspace and international law has not yet established the definition of "armed attack" or "use of force" in the domain. Washington seems to be willing to cooperate with its allies on this front and started to include cyberspace in other security treaties. For example, the US government put the following language into its International Strategy for Cyberspace, issued in May 2011: "[The United States] recognize[s] that certain hostile acts conducted through cyberspace could compel actions under the commitments we have with our military treaty partners."[24] Four months later, Washington and Canberra agreed to apply the ANZUS Treaty to the cyber realm. Following this example, Tokyo and Washington should revise Article V of the Security Treaty to cover cyberspace. The treaty currently refers only to "armed attacks… against the territories under the administration of Japan,"[25] thus failing to address the borderless nature of cyber threats. Yet it should not be interpreted that the two governments cannot respond to cyber threats together until the treaty is revised. The modification process should not prevent the countries from taking cooperative actions for their cybersecurity.

Second, Japan and the United States should conclude a formal agreement to define responsibilities in cyberspace. Washington's aforementioned International Strategy for Cyberspace argues that the United States "reserves the right to use all necessary means," including use of force to counter cyber-attacks. The lack of an articulated cyber-attack definition under international law may provide flexibility for the military to respond, but also makes it difficult to manage crises and speculations under ambiguous instructions.[26]

Accordingly, Tokyo and Washington need to agree on the use of force in the cyber domain. It is necessary to decide how to pursue defense, offense, and deterrence. Four difficulties remain in defining and assuring the efficacy of offense and deterrence.

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[23] "Fact Sheet: US-Japan Cooperative Initiative," Ministry of Foreign Affairs of Japan, Apr. 30, 2012, accessed May 21, 2012, http://www.mofa.go.jp/region/n-america/us/pmv1204/pdfs/Fact_Sheet_en.pdf.

[24] "The International Strategy for Cyberspace – Prosperity, Security, and Openness in a Networked World," The White House, May 2011, accessed Dec. 28, 2011, http://www.whitehouse.gov/sites/default/files/rss_viewer/international_strategy_for_cyberspace.pdf, 14.

[25] Ministry of Foreign Affairs of Japan. "Japan-US Security Treaty – Treaty of Mutual Cooperation and Security Between Japan and the United States of America." accessed Mar. 25, 2013. http://www.mofa.go.jp/region/n-america/us/q&a/ref/1.html.

[26] The White House, "The International Strategy for Cyberspace," 14.

First, the military has faced challenges with regard to what they can feasibly do offensively in the cyber domain. Additionally, governments struggle to identify what the scope of their defensive responsibilities is, as a result of increasing and changing threats. Precise cyber weapons whose outcomes are both predictable and controllable are hard to achieve. Cyber-attacks may disrupt the regional or international economy beyond the intended target, a critical reason why the US military gave up using cyber-attacks to disable Libya's air defense system before the NATO air strike. Furthermore, adversaries can reverse-engineer destructive computer codes originally programmed by the United States or Japan to exploit vulnerabilities in others' systems.[27]

Second, it is difficult to deter cyber-attacks. There is no guarantee of precise attribution to an organization or state that engages in cyber-attacks or espionage. Thus, deterrence by punishment is problematic when attribution is not guaranteed and a victim country cannot justify the costs of retaliating against attackers. Even if Japan or the US is able to trace the location of a perpetrator, it is extremely difficult to identify the person or organization behind the keyboard, especially in another country. Even if they can, forensic work may take months, although Secretary of Defense Leon Panetta claims that the US is making significant progress on this issue.[28] Deterrence by denial is challenging because the growing reliance on ICT makes the number of potential targets infinite and information security costly. It also poses a challenge to deny an adversary's capabilities and decrease the probability of their success.

While international cooperation is essential, there is no guarantee of cooperation from the country where a culprit resides, and governments often cannot reveal their sources of intelligence. Sophisticated attacks can be conducted by only a limited number of countries with sufficient resources and motives, thus allowing Tokyo and Washington to be able to narrow down possible attackers.[29] Yet proof of said attack would be needed

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[27] The Stuxnet computer virus is designed to disrupt a specific configuration of a specific industrial control system and delayed the Iranian nuclear program by disabling centrifuges at a uranium-enrichment plant in Iran in 2009 to 2010. Yet, it is unknown how much damage was intended by planting the virus. Some experts argue that even Stuxnet cannot provide precise, predictable, and controllable attacks and that these features are indispensable for military operations at a specific timing and against a target/targets. "Cyberwar: The meaning of Stuxnet," *The Economist*, Sep. 30, 2010, accessed Mar. 19, 2012, http://www.economist.com/node/17147862; Ellen Nakashima, "US accelerating cyberweapon research," *The Washington Post*, Mar. 18, 2012, accessed Mar. 19, 2012, http://www.washingtonpost.com/world/national-security/us-accelerating-cyberweapon-research/2012/03/13/gIQAMRGVLS_story.html. Ellen Nakashima, "US cyberweapons had been considered to disrupt Gaddafi's air defenses," *The Washington Post*, Oct. 17, 2011, accessed Mar. 19. 2012. http://articles.washingtonpost.com/2011-10-17/world/35276890_1_cyperattack-air-defenses-operation-odessey-dawn 0.

[28] Charles L. Glaser, "Deterrence of Cyber Attacks and US National Security," George Washington University/Cyber Security Policy and Research Institute, Jun. 1, 2011, accessed Dec. 29, 2011, http://www.cspri.seas.gwu.edu/Seminar percent20Abstracts percent20and percent20Papers/2011-5 percent20Cyber percent20Deterrence percent20and percent20Security percent20Glaser.pdf, 2-3, and US Department of Defense, "Remarks by Secretary Panetta on Cybersecurity to the Business Executives for National Security, New York City," Oct. 11, 2012. Accessed Feb. 27, 2013. http://www.defense.gov/transcripts/transcript.aspx?transcriptid=5136.

[29] David C. Gompert and Phillip C. Saunders, "Chapter 6: Mutual Restraint in Cyberspace," in *The*

before the attacked country could calculate what an equivalent response would be in terms of damage, destruction, and disruption in order to legitimize retaliation.[30] Furthermore, retaliation relies on the assumption that a country can still use its resources, including critical infrastructure, to respond after a cyber-attack. And if a cyber-attack has struck a country's key network infrastructure, this may not be the case.

Given the sensitivity of potential cyber threats, the SDF and US forces require a high level of trust for information-sharing. Since a cyber-attack on infrastructure could cripple military operations in four other domains, the SDF and US forces should start joint exercises and work together in a degraded information environment where a cyber-attack limits the usage of electricity to command and control communications, datalink, and GPS. Although the US Air Force has already begun such training, it would not want to share its lessons learned with the SDF without ensuring that the SDF follows information assurance rules.[31] And nevertheless, it will take at least 1-1.5 years to prepare for this type of new joint exercise at a command-post level. It would be pragmatic to begin with a smaller scale exercise among several decision-makers because it takes less time to prepare and would help future field-training or command-post exercises.[32]

Finally, Japanese and US private companies need to establish a framework to start information exchanges on cybersecurity and to serve as a foundation for bilateral public-private partnerships. The first sector to begin such a partnership is critical infrastructures. As cyber-attacks on critical infrastructure are skyrocketing,[33] the United States issued the "Executive Order – Improving Critical Infrastructure Cybersecurity" to expand public-private partnerships for information-sharing in February 2013. To protect critical infrastructures, it is imperative to ensure the safety of their components and relevant supply chains. Yet the two countries have different definitions of critical infrastructures – Japan has 10 sectors and the United States has 18. Japan does not currently categorize the defense industrial base and food and agriculture sector as critical infrastructures. Thus, the two governments have to agree on which sectors they want to cooperate over.[34] After they establish a mechanism of information-sharing between the Japanese and US

Paradox of Power: Sino-American Strategic Restraint in an Age of Vulnerability, ed. David C. Gompert et al. (Washington, DC: National Defense University, 2011), 118.

[30] Martin C. Libicki, "Chapter 2: Conceptual Framework," in *Cyberdeterrence and Cyberwar* (Santa Monica: RAND Corporation, 2009), 27-32.

[31] Yoichi Kato, "Kokusai Kankyo no Henka no Nakano Nichibei Domei" (The Japan-US alliance in an ever changing international environment), *Kokusai Mondai* 608 (2012), 34.

[32] Katsumi Yoshimura, "Tokushu: Saiba Hanzai Tero ni Sonaeru Enshu no Kiso Dejitaru Shakai Suishin Shinpojiumu 2006 – Juyo Inhura Tero no Doko to Taisaku Oyobi Kokusai Kyocho – Yori" (Special edition: Basics of exercises to prepare for cybercrimes and terrorism – Symposium for the Promotion of Digital Society 2006, international cooperation to understand and prepare for terrorism against critical infrastructure), *Nikkei BPnet*, July 26, 2011, accessed Dec. 29, 2011, http://www.nikkeibp.co.jp/sj/2/special/152/index1.html.

[33] *RT*, "United States ill-prepared for skyrocketing cyberattacks against critical infrastructure," Jan. 11, 2013, accessed Apr. 6, 2013. http://rt.com/usa/cert-dhs-cyber-monitor-814/

[34] See Mihoko Matsubara, **"**Japan and the US Need to Operationalize Cybersecurity Cooperation," *World Politics Review*, Apr. 1, 2013, accessed Apr. 6, 2013. http://www.worldpoliticsreview.com/articles/12833/japan-and-the-u-s-need-to-operationalize-cybersecurity-cooperation

governments and companies, they can expand the framework to other sectors. This framework would constitute a critical foundation for promoting bilateral public-private partnerships.

Therefore, the first step will be the governments' decision to cover cyberspace under their Security Treaty. Next, the two governments must establish rules of engagement and define the use of force. Without those steps, it is difficult for the SDF and US forces to conduct joint exercises to improve their cybersecurity capabilities. Finally, the two countries have to launch a framework for information-sharing to support public-private partnerships between the two countries, starting with the protection of critical infrastructures.

OVERCOMING CURRENT OBSTACLES: JAPAN'S ROLE

To prevent damages and identify emerging challenges, Japan and the United States must promote timely information-sharing and synchronize their cyber-warfare doctrine. There are several obstacles that Japan needs to overcome in order to strengthen cybersecurity cooperation with the United States. Above all, Tokyo needs a national strategy that is crafted by an authoritative governmental organization and that specifically lists urgent issues to tackle and actions to take. Some of the required efforts are common to improving national security – the reform of information security and assurance.[35] Others are unique to cybersecurity commitments, including stronger leadership of the government in streamlining the insufficient partnership between the public and private sectors, and the establishment of legislation to allow the SDF to defend people's lives and property against cyber-attacks.

First, Japan needs to improve information security and assurance, which are indispensable because cybersecurity requires the sharing of sensitive information, including vulnerabilities and potential targets. This step is needed for both cybersecurity and national defense. It is essential to establish an anti-espionage law and strengthen penalties for engaging in these sorts of crimes to prevent and punish cyber espionage and obtain US confidence in sharing sensitive intelligence.

Tokyo failed to enact an anti-espionage law in the past due to strong resistance from the media, lawyers, and opposition parties that prioritize public access to information and freedom of the press. Given the dark legacy of prewar censorship, these groups are concerned that the government might arbitrarily designate certain information "secrets for national defense and diplomacy," which could violate the rights of the public and media. This censorship legacy is so strong that even the Diet does not have an

[35] Richard Armitage and Joseph Nye published two reports to advise the Japanese government on the bilateral alliance and security strategies in 2000 and 2007: "INSS Special Report: The United States and Japan, Advancing Toward a Mature Partnership" and "The US-Japan Alliance: Getting Asia Right through 2020." They called for more robust information security and assurance. The Joint Statement of the US-Japan Security Consultative Committee also emphasized the importance of information security for further intelligence sharing in June 2011.

intelligence committee in which only cleared members are allowed access to sensitive information.

On Oct. 7, 2011, the Noda administration declared that it would submit a bill for secrecy protection to the Diet in 2012, aimed at stiffening penalties for government officials who leak classified information. Nevertheless, Tokyo gave up the idea in March 2012 because again, media, lawyers, and opposition parties expressed concern about the government's arbitrary use of such a law to limit the freedom of the press and the public's right to know. The ruling Democratic Party of Japan (DPJ) decided that the Diet session already had too many bills to consider, including reconstruction after the 3/11 triple tragedies. Also, party leadership believes that resistance would be too strong to let the bill pass.[36] This delay may discourage Washington from sharing more cybersecurity information with Tokyo because it may signal that Japan is not showing the necessary resolve to protect national defense secrets and is unable to punish offenders. Unfavorable news already broke after the *Sankei Shimbun* reported in October that at the first working-level cybersecurity dialogue, the United States specifically requested that Japan pay attention to information in Chinese. This is because in the aforementioned MHI case, the computer that gave the command for the virus infection used Chinese, and a number of websites calling for cyber-attacks are based in China as well.[37] Granted, China is an obvious target because a US report recently criticized China, along with Russia, about their cyber espionage efforts,[38] and the June 2011 SCC joint statement raised concerns over the rise of China.[39] Nonetheless, Washington could not have been pleased to see Tokyo leaking the contents of their discussions.

A stronger security clearance system will also require the revision of the court system. Currently, no judge, prosecutor, or lawyer has security clearance because Japan does not have a nation-wide security clearance system. The SDF is regarded as non-military under the Constitution and does not have a military court, meaning that everything is sent to open courts and possibly leading to intelligence leaks through the judiciary.[40] This also discourages the Japanese government from bringing cybersecurity

[36] "Himitsu Hozen Hoan no Teishutsu Dannen" (The government gave up submitting the bill for secrecy protection), *Sankei Shimbun*, Mar. 19, 2012, accessed Mar. 20, 2012, http://sankei.jp.msn.com/politics/news/120319/plc12031923270018-n1.htm.

[37] "Saiba Kogeki Bei ga Taichukeikai Kyoka Nihon ni '"Kanji" Joho no Kanshi wo" (Cyber attack: the US has strengthened the alert against China and asked Japan to watch 'Chinese characters' information), *Sankei Shimbun*, Oct. 25, 2011, accessed Dec. 27, 2011, http://sankei.jp.msn.com/politics/news/111025/plc11102501300000-n1.htm.

[38] "Foreign Spies Stealing US Economic Secrets in Cyberspace – Report to Congress on Foreign Economic Collection and Industrial Espionage, 2009-2011," Office of the Director of National Intelligence, October 2011, accessed Dec. 27, 2011, http://www.dni.gov/reports/20111103_report_fecie.pdf, 12.

[39] "The Joint Statement of the US-Japan Security Consultative Committee – Toward a Deeper and Broader US-Japan Alliance: Building on 50 Years of Partnership," US-Japan Security Consultative Committee, Jun. 21, 2011, accessed Dec. 27, 2011, http://www.state.gov/r/pa/prs/ps/2011/06/166597.htm.

[40] Article 82 of the Japanese Constitution required trials and judgments to be public. In 2011, the Japanese government revised the Guideline on the Management of Trade Secret to protect trade secret in lawsuits. Now, a court of justice can decide not to unveil the entire or part of trade secret-related

issues to trial unless closed courts are ensured and security clearances are provided for judges and prosecutors. Nevertheless, Tokyo cannot grant security clearance to every lawyer and cannot reject a lawyer chosen by a defendant simply because he or she does not possess security clearance. The government would therefore need to establish some sort of law that requires confidentiality and secrecy if sensitive security-related information is obtained through judicial work.

In addition to more strict penalties for government officials, cyber-crime laws need to be toughened. Currently, the penalty is not severe. If someone is convicted of creating and distributing viruses without a justifiable reason, he or she may receive a sentence of three years of imprisonment or a maximum fine of ¥500,000 ($6,400). The penalty for obtaining or keeping computer viruses is up to two years of imprisonment or a fine of ¥300,000 ($3,850).[41] There was progress when a new cybercriminal law was established in 2011 to cover the acquisition, creation, distribution, keeping, and provision of computer viruses and illegal computer access without a proper reason. Prior to that, the police could arrest suspects on allegations of causing damage to computers.

Second, Tokyo must streamline cybersecurity efforts in the government by strengthening the NISC's authority and capability. Due to its nebulous authority, the NISC is not able to provide any forcible national cybersecurity strategy that identifies the path that Japan should take. The rigorous budget cuts under the DPJ administrations have made it difficult for the Center to take any initiatives. The NISC was worried that any conspicuous action would attract DPJ attention and may lead to disorganization. That is partly why the NISC did not hold an Information Security Policy Committee meeting for nine months after the DPJ took power in 2009. Effective administration is also impeded because NISC members, mostly comprised of government officials sent from ministries, are replaced every couple of years. Such a timeframe is insufficient for developing expertise, especially on the technical aspects of these complicated issues. The trend thus tends to be to prioritize ministerial interests rather than national interests.[42] In such an environment, no organization has the vision or ability to lead Japanese cybersecurity policy reform and to forge international cooperation.

Although Japan is currently facing financial difficulties, Tokyo also needs to allocate more resources to cybersecurity and pass legislation allowing the NISC to hire outside experts, or even outsource analysis, because most of the current members lack the technical expertise. In the public sector, Japan does not take advantage of computer "geeks" who bring specialized knowledge and solutions to the table.[43] The US

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information at an open court.

[41] "'Uirusu Sakuseizai' ga Seiritsu, Akuyo Mokuteki no Sakusei ya Shoji wo Shobatsu 3 Nen Ika no Choeki Mataha 50 Man en Ika no Bakkin, 2011 nen 7 gatsu ni shiko" (Law established to punish the crime of computer virus creation and possession for malicious reasons, 3 years imprisonment or ¥500,000 fine at a maximum, effective July 2011), *Nihon Keizai Shimbun*, Jun. 21, 2011, accessed Dec. 27, 2011, http://www.nikkei.com/tech/personal/article/g=96958A9C93819499E0E2E2E39E8DE0E2E2E4E0E2E3E3E2E2E2E2E2E2;p=9694E0E7E2E6E0E2E3E2E2E0E2E2.

[42] Motohiro Tsuchiya, interview by author.

[43] Motohiro Tsuchiya, interview by author.

government, by contrast, takes advantage of hacker contests to recruit topnotch hackers.

Third, Japan has to expand current public and private partnerships under a stronger NISC leadership because current information exchange efforts are redundant and performed on a voluntary basis. In August 2011, the NPA established a network to share information on cyber-attacks with each prefectural police headquarters and about 4,000 domestic defense contractors and advanced technology-related companies. This is the largest network that the Japanese government has ever created for such a purpose. If a company encounters a cyber-attack, it reports to local police who then share analyses and alert other members.[44] The METI launched a similar organization called J-CSIP (Initiative for Cyber Security Information sharing Partnership of Japan), on Oct. 25, 2011. Nine critical infrastructure-related companies, including MHI and Toshiba, joined the initiative, and chemical, electric power, gas, and petroleum companies joined in 2012.[45] These two networks should be integrated under the NPA to avoid overlap on national security threats with the cooperation of the MOD, and another network should be created under the METI to focus on non-defense issues that require different levels of security clearance. In cooperation with the NISC, the METI can also help create the partnership between Japanese and American private companies by establishing a model for information exchange.

To disseminate alerts and advice in a timely and safe manner, Tokyo needs to have safe communication lines among defense-related organizations and to create a report template to simplify input efforts. This also takes time and money. Nevertheless, the government has to start information-sharing – even if this means using less secure communication lines for the simple fact that cybersecurity damages and threats continue to grow.

Finally, Tokyo needs to establish a legal system that allows the SDF to use both defensive and offensive capabilities to protect the nation from cyber-attacks. It is essential that a revision of the SDF Law adds cyberspace as an area of responsibility. Tokyo has been hesitant to push the envelope in terms of SDF usage due to its wartime legacy and the potential criticism from China and South Korea. The government has been especially indecisive about offensive capability. However, the SDF has set a precedent in this regard. For example, the JSDF has a Chemical School in Saitama Prefecture which provides training on ways to protect against chemical weapons attacks. This is an instance of developing offensive capabilities to research and develop defensive capabilities. The reason why this was kept secret is because there was concern about a potential backlash given Japan's constitutional limits on developing offensive weapon

[44] "'Saiba Interijensu' Fusege Keisatsu-cho ga 4000 Sha to Renkei" (The National Police Agency collaborate with 4,000 companies to prevent cyber espionage), *Nihon Keizai Shimbun*, Aug. 4, 2011, accessed Dec. 29, 2011, http://www.nikkei.com/news/headline/article/g=96958A9C93819695E2E6E2E2EB8DE2E6E2EAE0E2E3E39180E2E2E2E2.

[45] Information-technology Promotion Agency, "IPA no hyotekigata saiba kogeki ni taisuru katsudo no goshokai" (Introduction of IPA's activities to deal with advanced persistent threats), Feb. 22, 2013, accessed April 7, 2013.

capabilities. After the 1995 Sarin gas attack on the Tokyo subway by the *Aum Shinrikyo*, a Japanese cult, the government started to appreciate the necessity of the school and its offensive capabilities, as it realized such capacity is critical for timely and appropriate responses to biochemical attacks.

Japan stands at a crossroads when it decides whether to obtain offensive and retaliation capabilities in cyberspace. *Sankei Shimbun* reported that the Cyberspace Defense Unit (CSDU) of 100 members would be established by the end of March 2014 using 10 billion yen (about $126 million). The CSDU will reportedly have both defensive and offensive capabilities to analyze computer virus penetrations, collect information on the acquisition of computer viruses, and conduct cyber-warfare simulations.[46] Tokyo has been quiet about its capabilities. This silence may protect the secrecy of its missions and project an image of greater competency. This furtiveness, however, may also trigger miscalculation and lead to unwanted excuses for competition from adversaries. In fact, researchers in the PLA Academy of Military Sciences arguably overestimate the SDF's cyber-warfare capabilities: they believe that the SDF has sufficient offensive and defensive capabilities in its cyber-warfare strategy, and that it has established the CSDU, consisting of 5,000 members with sufficient cyber weapons and defensive capabilities.[47]

Tokyo is in a hurry to enact a law to provide the CSDU with both offensive and defensive capabilities and to enable it to defend other ministries, their affiliated organizations, and defense contractors. Tokyo had planned to cover only SDF internal networks, but the recent cyber-attacks against defense contractors and other ministries in 2011 forced the government to change its mind. The government will determine the Unit's scope of responsibility in August, but is believed that it will interpret a cyber-attack as constituting a use of force if: 1) the attack uses either a computer virus or illegal access; 2) critical infrastructure or life lines are severely damaged; and 3) people's lives and property are threatened.[48] This development sounds promising, but it is only a plan at this stage.

To contribute to timely information-sharing efforts, the Japanese government has to strengthen the NISC leadership, improve partnerships between the public and private sectors, and enhance information security and assurance. Tokyo also needs to establish a law to enable the SDF to protect the country both on cyber and non-cyber fronts.

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[46] "Saiba Butai, Hangeki Kano Jieitai, 100 Nin Taisei" (Cyberspace Defense Unit will have offense capability with 100 members)," *Sankei Shimbun*, Jan. 21, 2012, http://sankei.jp.msn.com/politics/news/120121/plc12012101310000-n1.htm, and "Saiba Butai ni 100 Oku-en Gaisan Yokyu Hoshin" (Japanese Ministry of Defense will seek ¥10 billion for Cyberspace Defense Unit in its budget request), *Sankei Shimbun*, Jun. 14, 2012, accessed Jun. 18, 2012, http://sankei.jp.msn.com/politics/news/120614/plc12061406590006-n1.htm.

[47] Yuan Xuan and Zhao Dexi, "Nihon Nado Kakkoku no 'Saiba-Sen' Gunbi" (The cyberwarfare capability of each country, including Japan), *People's Daily*, Jun. 18, 2010, accessed Jan. 30, 2012, http://japanese.china.org.cn/politics/txt/2010-06/18/content_20290087_2.htm.

[48] "Saiba butai, hangeki kano Jieitai, 100 nin taisei," *Sankei Shimbun.*

Conclusion

Tokyo and Washington declared their cooperation on cybersecurity under their alliance for the first time in public in June 2011. Since then, little tangible progress has been made, though cyber-attacks and cyber espionage have been growing. The blurry definition of cybersecurity and the wide variety of threats prohibit governments from implementing effective protection of their ICT, which is the backbone of their national defense, economy, and critical infrastructure.

It is necessary to have multilateral cooperation on cybersecurity, but different interests and priorities among countries inhibit such efforts. Allies can overcome such impediments. As two of the most politically and economically powerful players on the world stage, Japan and the United States have more to lose than many other countries and are obliged to reduce their vulnerabilities to prevent negative consequences for the international community. They need to cover cyberspace in the Security Treaty and establish rules of engagement in the domain. In addition to military-to-military cooperation, the two countries need to establish an information-sharing framework to protect critical infrastructures. Furthermore, Tokyo needs to reconsider SDF offensive capabilities and revise the SDF Law to cover the cyber domain as a new area of responsibility. Attribution difficulties will continue to make possible forms of deterrence and retaliation challenging.

In the short run, timely information-sharing is key to responding to cyber-attacks and espionage and preventing further damage. This is similarly applicable to other US allies as well. Nonetheless, there are still many obstacles that Tokyo must overcome for bilateral cybersecurity cooperation to become achievable, including the need for stronger leadership of the NISC to streamline efforts, wider partnership between the public and private sectors, and more robust information security and assurances. Ultimately, this is the first step moving forward for Japan to exchange sensitive and critical information with the United States and to truly contribute to cybersecurity cooperation and a stronger alliance.

"Getting the Biosecurity Architecture Right" in the Asia-Pacific Region

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Contextualising Biosecurity in the Asia-Pacific Region

The Asia-Pacific region is a focus of both growth and instability in the 21st century. The US National Research Council provided an outlook for the coming decade on the expected contribution of the rapid growth of advanced biological knowledge and technologies to "all sectors of the life sciences industry – most notably health care and agriculture" alongside food production, the environment, and national security.[1] A global market research firm, Frost & Sullivan,[2] reported that Asia-Pacific healthcare revenue represented 23.2 percent of the global market ($247 billion) in 2009, and by 2015 the region could possibly contribute up to 40 percent.

At the same time, the region faces a series of security issues at different levels. At the strategic level, there are allegedly offensive chemical, biological, and nuclear programs in North Korea.[3] Transnational security issues also pose an increasing threat profile, including proliferation, trafficking, terrorism, organized crimes, and piracy.[4,5]

Moreover, safety risks from unintentional exposures to chemical, biological, radiological, and nuclear (CBRN) agents of humans, animals, plants, and the environment are increasing, with a growing number of advanced research laboratories dealing with higher-level pathogens and an increase in nuclear energy plants. For example, investigating the state of laboratory safety and security policies in 16 Asian countries, Gaudioso concluded that the risk that most concerned practicing scientists was the scenario of pathogens under research "[a]ccidentally infecting people or animals or contaminating the environment outside laboratory," more than the risk of theft or advertent use of the agents for destructive purposes, such as biocrimes or terrorism.[6]

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[1] National Research Council, 2006. *Globalization, Biosecurity, and The Future Of The Life Sciences*. Washington, D.C.: National Academies Press.

[2] Frost & Sullivan, 2010. *Generics And Biopharma Poised For Growth In Asia* [online]. Available from: http://www.frost.com/prod/servlet/press-release.pag?docid=204528562 [Accessed 25 October 2011].

[3] International Institute for Strategic Studies., 2011. *North Korean Security Challenges: A Net Assessment*. London: IISS.

[4] Caballero-Anthony, M., Emmers, R. and Acharya, A.., 2006. *Non-traditional security in Asia: dilemmas in securitization*. Hampshire: Ashgate.

[5] Ziemke-Dickens, C. and Droogan, J., ed., 2010. *Asian Transnational Security Challenges: Emerging Trends, Regional Visions*. Sydney: Council for Asian Transnational Threat Research.

[6] Gaudioso, J., 2006. *A Survey Of Asian Life Scientists: The State Of Biosciences, Laboratory Biosecurity, And Biosafety In Asia*. California: Sandia National Laboratories.

The generalized low threat profile of terrorism among scientists is slightly different from that seen in the post-9/11 context in the United States. The anthrax letters incidents that followed Sept. 11, 2001, demonstrated the major disruptive effects of biological attacks, placed the issue in the forefront of the national security agenda and significantly propelled biodefense funding.[7] Japan also experienced attempted biological attacks by the religious group *Aum Shinrikyo* in 1990-1995.[8]

Finally, there remains a threat posed by the natural outbreak of infectious diseases such as Severe Acute Respiratory Syndrome (SARS), Nipah, and Avian Influenza that have caused the most extensive damage to the Asia-Pacific region in recent years compared to the other biological threats described above. These have given critical momentum for the regional governments to prioritize public health as a security issue.[9]

This is, after all, a region where states need to maintain economic development alongside the diffusion of highly-advanced life science technology which has been accelerating, raising proliferation concerns, and increasing the risk of accidents alongside the imminent threats of infectious diseases. In order to deal with this wide spectrum of threats, coherent measures are needed.[10,11,12]

In this paper, multifaceted national and international efforts to mitigate and respond to the potential for the destructive use of the life sciences, accidental risks, and natural threats of diseases, are broadly conceptualised as biosecurity, superficially including, but not limited, following measures:

- Public health preparedness and response planning (e.g., International Health Regulations of the World Health Organization (WHO));
- Laboratory regulations to safely manage dangerous pathogens and toxins, to prevent an accidental release into the environment and unauthorized access (e.g. WHO Biosafety Guideline, Laboratory Biorisk Management Standard (CWA-15793:2008));
- Intelligence;
- Review of security-sensitive science and technology developments;
- Internationally coordinated export controls (e.g. the Australia Group);

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[7] Schuler. A., 2004. Billions for Biodefense: Federal Agency Biodefense Funding, FY2001–FY2005, *Biosecurity And Bioterrorism: Biodefense Strategy, Practice, And Science*. 2 (2), 86-96.
[8] Wheelis, M. and Sugishima, M., 2006. Terrorist Use Of Biological Weapons. *In*: Wheelis, M., et al., eds. *Deadly Cultures: Biological Weapons Since 1945*, MA: Harvard University Press, 284-303.
[9] Enemark, C., 2007. *Disease And Security: Natural Plagues And Biological Weapons In Asia*. London: Routledge.
[10] Feaks, D., Rappert, B. and McLeish, C., 2007. Introduction: A web of prevention. *In*: Rappert, B. and McLeish, C., eds. *A web of prevention: Biological weapons, life science and the governance of research*. London: Earthscan, 1-13.
[11] Pearson, G. S., 1993. Prospects For Chemical And Biological Arms Control: The Web Of Deterrence. *Washington Quarterly*, 16 (2), 145-162.
[12] International Committee of the Red Cross., 2003. *Report On* B*iotechnology, Weapons And Humanity*. Geneva: International Committee of the Red Cross.

- Strong international arms control agreements with effective national implementation, including legislation against bioterrorism and biocrimes (e.g., the Geneva Protocol 1925, Biological Weapons Convention (BWC), Chemical Weapons Convention (CWC), and the UN Security Council Resolution 1540);
- Biodefense; and,
- Education and capacity-building among and for life scientists.

These interdisciplinary biosecurity measures are important right across the Asia-Pacific region. However, policy-relevant insights require a more precise analysis of the specific biological threats and security measures.[13] Such analysis is necessary to highlight both the possible risks/threats that are significant in the region and which security measures should be prioritized. The biosecurity taxonomy (Table 1) developed by Koblentz (2010) supports consideration of biosecurity measure priorities for the region. The table aims to highlight the prioritization by state and substate actors of perceived threats resulting in a range of possible outcomes. The perception of threat/risk *as seen by stakeholders* is reflected by the cell numbers (1-6).

Table 1: Taxonomy of Biological Threats*: threats/risks as perceived at state and substate levels, actors involved and outcomes of high concern

<table>
<tr><th rowspan="2">Group under Risk/Threat</th><th colspan="3">Source of Threat</th></tr>
<tr><th>State</th><th>Nonstate Actors</th><th>Nature</th></tr>
<tr><td>State</td><td rowspan="2">Cell 1
Biological Warfare
(offensive programmes against other states)</td><td>Cell 3a
Biological terrorism</td><td rowspan="2">Cell 5
Pandemics
(e.g. Influenza, HIV)</td></tr>
<tr><td>Cell 3b
Dual-use research</td></tr>
<tr><td>Individual, Community, or Society</td><td rowspan="2">Cell 2
Biological Warfare
(offensive programmes against nonstate actors)</td><td>Cell 4a
Biological crimes</td><td rowspan="2">Cell 6
Endemic and epidemic diseases (e.g. SARS, cholera…)</td></tr>
<tr><td>Cell 4b
Laboratory accidents</td></tr>
</table>

*Note: Table adapted from Koblentz (2010).

Having considered the risk/threat priorities in the Asia-Pacific region, firstly, principal security measures should be those which support responses to, and mitigation of, any natural outbreak of infectious disease for public health purposes (Cell 6 and Cell 5). At the same time however, it is also important to point out the unique nature of biodefense, where 'medicine' plays the most significant role.[14] Public health response and preparedness capacities for Cell 6 and Cell 5-level natural outbreaks of disease (those risks perceived as the most pressing by stakeholders) share characteristics with biodefense against terrorism, while the latter also requires specific measures to counter

[13] Koblentz, G.D., 2010, Biosecurity reconsidered: Calibrating Biological Threats And Responses, *International Security*. 34 (4), 96-132.
[14] Office of the Surgeon General United States Army., 2007. *Medical Aspects Of Biological Warfare*. Washington, D.C.: Borden Institute Walter Reed Army Medical Center.

attacks with weapons.[15] Therefore, giving priority to capacity-building in terms of public health experts and disaster relief operations to respond to natural outbreaks of disease (Cell 6 and Cell 5) can concurrently strengthen the biodefense programs of regional states (Cell 4a, Cell 3a, Cell 2 and Cell 1) – addressing those risks perceived by stakeholders as less pressing.

Secondly, preventive measures are required to mitigate against laboratory accidents (Cell 4b) and the misuse of dual-use research (Cell 3b). These measures are key because a number of practicing scientists are working in research laboratories and many are conducting cutting-edge research in industry. In order to prevent laboratory accidents, technical safety training in higher education and industrial settings is essential. Prevention of the misuse of cutting-edge knowledge requires the embedding of a wider culture of responsibility in the entire life science community, including enhancement of ethical decision-making skills.[16,17] Another important, but as-yet widely unrecognised, principle is that a wider engagement between the science community and biosecurity education is essential if research development and effective security are to coexist.[18]

Therefore, two main priorities of security measures can be set out in the region. The first is the need for immediate capacity-building in the overarching concepts of public health preparedness, disaster relief, and biodefense. The second is the need for long-term education and awareness-raising policies to promote the responsible conduct of life science research. As these measures are highly interdisciplinary, planned coordination between ad-hoc and institutionalized arrangements are essential to develop effective policy coordination.[19] How, then, can such processes be explored and developed in order to provide policy prescriptions specifically for the Asia-Pacific Region?

Asia-Pacific Security Architecture and the US-Japan Partnership

The growing move in International Relations (IR) to analyze overarching security arrangements in the Asia-Pacific region emphasizes the establishment of a 'security

[15] Franz, D.R., 2011. Biodefense: Where Do We Go From Here? Presented at *Science, Diplomacy and Security Seminar: Activities by International Science Community*, 14 January, Tokyo RISTEX-Japan Science and Technology Agency.
[16] Miller, S. and Selgelid, M. J., 2007. Ethical And Philosophical Consideration Of The Dual-Use Dilemma in the Biological Sciences, *Science And Engineering Ethics*. 13 (4), 523-580.
[17] Sture, J. 2010. *Dual Use Awareness And Applied Ethics Research: A Brief Introduction To A Social Responsibility Perspective For Life Scientists* [online]. University of Bradford. Available from http://www.brad.ac.uk/bioethics/Monographs/ [Accessed 26 November 2011].
[18] Petro, J.B. and Seth-Carus. W., 2005. Biological Threat Characterization Research: A Critical Component Of National Biodefense. *Biosecurity And Bioterrorism: Biodefense Strategy, Practice, And Science*. 3 (4), 295-309.
[19] Bakanidze, L., Imnadze, P. and Perkins, D., 2010. Biosafety and biosecurity as essential pillars of international health security and cross-cutting elements of biological non-proliferation, *BMC Public Health*. 10 (1), 1-12.

architecture' to deal with transnational issues by utilizing institutionalized arrangements and also developing ad-hoc coalitions.[20,21]

Traditionally, regional states have set core security arrangements in the form of bilateral alliances with the United States, the so called 'hub-and-spokes' model. However, by developing a 3-tier analysis, Sahashi explains that while such bilateral frameworks (tier-1) are vital, they are not very effective in dealing with newly emerging transnational threats penetrating the national borders of multiple countries.[22] In the short-term, however, achieving an integrated security arrangement for the region (tier-3) is not straightforward due to the current politico-economic environment in the region.[23]

Under these circumstances, needs-based or functional security arrangements are necessary to enable regional states to jointly work on pressing transnational security threats (tier-2). It is suggested that by starting from "informal multilateral politico-security dialogues and military confidence-building measures" between like-minded states, such joint efforts "demonstrate a momentum for establishing wider regional security frameworks".[24]

This analysis, underscoring the tier-2 approach associated with tier-1 and tier-3, is helpful in supporting the two principal regional biosecurity priorities identified above. Developing tier-2 cooperation to address the first priority – the immediate need for capacity-building in public health preparedness, disaster relief, and biodefense – requires substantial assets from tier-1, as the technical role of the defense sector is vital. On the other hand, the nature of the second priority – education and awareness-raising among the life science community – is more suitable to start with a wider tier-2 framework that is very close to tier-3 level. Compared to the former, education is a 'soft' issue where academia and industry play a central role, and regional cooperation can be expected with fewer political disagreements.

Therefore, countries leading such processes are preferred to have a robust bilateral partnership, as well as having an internationally active life science community with the

[20] Jimbo, K., Sakata, Y., Sahashi, R., Takahashi, S., Masuda, M., and Yuzawa, T., 2010. [*Asia-Pacific Security Architecture: Tiered Structure of Regional Security*]. Tokyo: Tokyo Foundation (In Japanese). Cited in Katayama, S., 2010. Asia-Pacific Security Architecture: Tiered Structure of Regional Security [Online]. Available from: http://www.tokyofoundation.org/en/articles/2010/asia-pacific-security-architecture [Accessed 26 October 2011].

[21] Tow, W.T. and Taylor, B., 2010. What is Asian Security Architecture? *Review Of International Studies*. 36. 95-116.

[22] Sahashi, R., 2011. Security Arrangements In The Asia-Pacific: A Three-Tier Approach. *In*: Tow, W. T. and Kerstain, R., eds. *Bilateral Perspectives On Regional Security: Australia, Japan and the Asia-Pacific Region*. New York: Palgrave MacMillan (Forthcoming).

[23] Sahashi, R., 2011. Security Arrangements In The Asia-Pacific: A Three-Tier Approach. *In*: Tow, W. T. and Kerstain, R., eds. *Bilateral Perspectives On Regional Security: Australia, Japan and the Asia-Pacific Region*. New York: Palgrave MacMillan (Forthcoming).

[24] Sahashi, R., 2011. Security Arrangements In The Asia-Pacific: A Three-Tier Approach. *In*: Tow, W. T. and Kerstain, R., eds. *Bilateral Perspectives On Regional Security: Australia, Japan and the Asia-Pacific Region*. New York: Palgrave MacMillan (Forthcoming).

potential to contribute a wider regional engagement. The US-Japan Alliance partnership is notably one of the most well-developed in the region.[25,26] In the life science context, the United States holds the largest global biotech-market share, followed by Japan in the Asia-Pacific region, alongside South Korea, China, India, Canada, Australia, the Philippines, Indonesia, Taiwan, and Singapore.[27] At the same time, Japan and the United States are the states in which the threat of the destructive use of the life sciences was recently realized, with *Aum Shinrikyo* in Japan and the anthrax letter attacks in the United States. Arguably, the US-Japan partnership is well-placed to lead the process of regional biosecurity architecture-building as a responsibility rather than merely as a rationale. Bearing this in mind, are there any policy intervention points to consider?

Capacity-Building in Immediate Responses to a Biological Disaster

In the United States, the "bio"-securitization of public health has been increasingly promoted. [28] President Obama authorized the National Strategy for Countering Biological Threats in 2009.[29] The first objective of this strategy is to promote global health security with partner countries and regions. Core bases of the strategy include the *National Biodefense Strategy* (Homeland Security Presidential Directive (HSPD)-10) in 2007 and the *Medical Counter Measures against WMD* (HSPD)-18 in 2007 under George W. Bush's administration. The HSPD-10 strategy was outlined with a view to "fully integrat[ing] the sustained efforts of the national and homeland security, medical, public health, intelligence, diplomatic, and law enforcement communities" (Department of Homeland Security 2004), [30] and the HSPD-18 mandated that the "Department of Health and Human Services (HHS) will lead the interagency process and strategic planning".[31]

The importance of the lead by HHS is that public health has been authorised as a core sector for dealing with biological threats under the Bush and Obama administrations, in cooperation with other governmental branches such the Department of Defense (DoD). The HHS established the Biomedical Advanced Research and Development Authority (BARDA) under the Pandemic and All-Hazards Preparedness Act (Public Law 109-417) of 2006 (HHS 2007). The all-hazards approach means that the BARDA is responsible the research, development and procurement of medical counter measures for both CBRN

[25] Armitage, R.L., and Nye, J.S., 2007. *The US-Japan alliance: Getting Asia right through 2020*. Washington, D.C.: Center for Strategic and International Studies.
[26] Cronin, P.M., Denmark, A. and Kliman, D., 2010. *Renewal: Revitalizing the US-Japan Alliance*. Washington, D.C.: Center for a New American Security.
[27] National Research Council, 2006. *Globalization, Biosecurity, And The Future Of The Life Sciences.* Washington, D.C.: National Academies Press.
[28] Fidler, D. and Gostin, L. L., 2007. *Biosecurity In The Global Age: Biological Weapons, Public Health, And The Rule Of Law*. California: Stanford University Press.
[29] National Security Council, 2009. *National Strategy For Countering Biological Threats*. Washington, D.C.: NSC.
[30] Department of Homeland Security, 2004. *Homeland Security Presidential Directive 10: Biodefense for the 21st Century*. Washington, D.C.: DHS.
[31] Department of Homeland Security, 2007. Homeland Security Presidential Directive 18: Medical Countermeasures Against Weapons Of Mass Destruction. Washington, D.C.: DHS.

attacks and emerging infectious diseases, including pandemic influenza (both manmade and natural threats).

In Japan, the Self-Defense Force (SDF) developed training exercises for responses to nuclear, biological, and chemical (NBC) weapons in the 1970s. However, substantial budgeting for capacity-building for NBC defense started in 2000 in the aftermath of the attempted biological attacks by *Aum Shinrikyo* in 1990-1995.[32] Efforts were further enhanced in the light of increasing international attention to the anthrax incidents in the United States in 2001. Relevant divisions of the Ground, Maritime, and Air SDF carry out research and relevant activities, including search and rescue for accident victims and for ships or aircraft in distress, flood control, medical treatment, epidemic prevention, transportation of personnel, water supply, and transportation of goods.[33]

Whilst governmental efforts have provided clear developments in CBRN capacity development in relevant agencies, a summary study on the CBRN efforts during the last decade pointed out that "for better CBRN preparedness in Japan, more interdepartmental and inter-organisational collaboration and co-operation should be enhanced",[34] as the human and financial resources to develop, institutionalize, and coordinate preventative biosecurity measures is limited.[35]

Such a budgetary focus is particularly important for any future international cooperation activity by Japan, particularly in the aftermath of the March 2011 earthquake and nuclear disaster in Japan. Political, financial, and psychological constraints make it difficult, in the aftermath of this disaster, to expect any expansion of Japan's international role in the immediate future. These constraints are likely to accelerate reduction in Japan's international engagement, promoting an inward-looking process that has been underway for some time.[36] A similar difficult situation is in operation in the United States, with "its large budget deficits and a growing national debt, military overstretch, and the press of domestic requirements…all could impact US capabilities for influencing Asia, irrespective of Washington's intentions".[37]

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[32] National Diet of Japan., 2000. [Opinion written question on the governmental responses to CBN weapons] An Extra Ordinary Diet Session, No. 150 of 9 Nov. 2000 (in Japanese).

[33] Kikuchi, M., Ishihara, M., Matsui, T., Wakisaka, H., Ashida, H., Sato, S. and Ishizuka, T. , 2004. Biomedical engineering's contribution to defending the homeland. *IEEE Engineering In Medicine And Biology Magazine*, 23 (1), 175-186.

[34] Saito, T., 2010. Tokyo Drift? CBRN Defense Capability In Japan 15 Years After The Subway Sarin Attack In Tokyo. *CBRNe World*, Autumn, 2006, 20-26.

[35] Furukawa, K., 2009. Dealing With The Dual-Use Aspects Of Life Science Activities In Japan. *In*: Rappert, B. and Gould, C., eds. *Biosecurity: Origins, Transformations And Practices*, Hampshire: Palgrave Macmillan, 133-155.

[36] Glosserman, B., 2011. A Year Of Surprises: The 17th Japan-US Security Seminar. *Issues and Insights*, 11(11).

[37] Armitage, R.L., and Nye, J.S., 2007. *The US-Japan alliance: Getting Asia right through 2020*. Washington, D.C.: Center for Strategic and International Studies.

Therefore, the issue of a bilateral partnership should be a topic within which Washington and Tokyo can achieve both domestic political support and also best utilize the existing common assets of the US-Japan Alliance. The US-Japan Security Consultative Committee (SCC) of defense and foreign Ministers, so called 2+2 process, is one such way to develop strategic objectives in this area under the US-Japan Alliance. The 2+2 process developed several joint statements, with those in 2005, 2007, and 2011 being of particular interest, emphasising disaster relief operations, medicine, counterterrorism, counter-proliferation, and responsive capabilities to WMD.

The joint statement of 2005 identified possible bilateral activities over these crosscutting issues.[38] A recent study specifically analyzed some of these as quasi-military or nonmilitary activities (summarized into the left column of Table 2).[39] Importantly, these are also those in which further options for bilateral cooperation could be usefully considered, although currently, bilateral cooperation is "limited" or "indirect".[40]

The middle and right-hand columns of Table 2 include activities, equipment, and facilities for responding to biological weapons that are illustrated in the Japanese government's publication, *Defense of Japan* (2010). Although these biodefense activities are primarily designed to protect the country from the hostile use of biological agents (i.e. in warfare or terrorism situations), they are widely applicable to disasters caused by natural outbreaks of infectious disease or by accidents (in nonmilitary situations). Therefore, if noncombat international missions are seen as politically and legally acceptable means for Japan to achieve bilateral cooperation with the United States and also with further international partners,[41] the enhancement of equipment, capacity-building, and joint operations over nonmilitary aspects of biodefense certainly has potential to engage Japan's international cooperation.

Table 2: Overarching Activities between the 2+2 model (2005) and *Defense of Japan* (2010)

Activities of limited bilateral cooperation in 2+2 strategy (2005)	*Defense of Japan* (2010)	
	Biodefense Activities	Equipment and Facilities

[38] Rice, C., *et al*., 2005. *US-Japan alliance: Transformation and realignment for the future* [online]. Available from: http://www.mofa.go.jp/region/n-america/us/security/scc/doc0510.html

[39] Yamaguchi, N., 2006. Thoughts About The Japan-US Alliance After The Transformation: With A Focus On International Peace Cooperation Activities. *The National Institute for Defense Studies News*, January (96), 1-5.

[40] Yamaguchi, N., 2006. Thoughts About The Japan-US Alliance After The Transformation: With A Focus On International Peace Cooperation Activities. *The National Institute for Defense Studies News*, January (96), 1-5.

[41] Chanlett-Avery, E., 2011. *The US-Japan Alliance*. Washington, D.C.: Congressional Research Service.

• Counterterrorism operations, • Search-and-rescue operations*, • Intelligence, surveillance, and reconnaissance operations*, • Response to attacks by WMD	• Detection and surveillance, • Sample collection of biological agents, • Information gathering and analysis, • Decontamination, • Determination of the medical treatment priority of infected victims and their transportation, • Capacity-building of the above	• Portable sample collection devices, • Infectious disease designated medical facilities, • Micro-organism identification facility, • Advanced outdoor testing facility, • NBC reconnaissance vehicle, • Biological agent warning equipment

Reference: (Japan Ministry of Defense 2010)[42]
Note: *Quasi-military activities

Importantly, 2+2 documents in 2007and in 2011 underscored the establishment of a 'Defense Working Group against CBRN Weapons' (CDWG).[43,44] This will be an important vehicle to further develop bilateral consideration of biodefense and should include a substantial role for military medicine by taking an all-hazard approach in relation to CBRN weapons and for CBRN disasters. In this way, implications for defense policy developments and further information-sharing between the countries may be further considered in cooperation with public health sectors. This is particularly relevant given the experience of the Fukushima nuclear disaster in March 2011. Some nascent efforts along these lines have already been reported in parallel to *Operation Tomodachi*.[45]

Harmonizng such bilateral efforts within a regional context will be more challenging due to different political interests and capacity provisions amongst regional partners. However, there is a noteworthy possible vehicle in the Asia-Pacific region for discussing biosecurity issues. In October 2010, the ASEAN Defense Ministers' Meeting (ADMM-Plus) was inaugurated in Hanoi, Vietnam. The term 'plus' indicates the following members: Australia, China, India, Japan, Republic of Korea, New Zealand, Russia, and the United States. Chheang suggests that this group's identification of priorities dealing with 'non-traditional security issues' is key to the development of functional cooperation, including capacity-building relating to natural disaster management, counterterrorism, and military medicine.[46] A Working Group on Military

[42] Japan Ministry of Defense., 2010. *Defense of Japan 2010*. Tokyo: MoD.
[43] Rice, C., Rumsfeld, D., Machimura, N. and Ohno, Y. 2007. *Alliance Transformation: Advancing United States-Japan Security And Defense Cooperation* [online]. Available from: http://www.mofa.go.jp/region/n-america/us/security/scc/joint0705.html
[44] Clinton, H.R., Gates, R., Matsumoto, T. and Kitazawa, T., 2011. *Cooperation In Response To The Great East Japan Earthquake* [online]. Available from: http://www.mofa.go.jp/region/n-america/us/security/pdfs/joint1106_03.pdf
[45] Cohen, B., 2011. Marines drill in Japan on CBRN preparedness [online]. *BioPrepWatch*, 1 Jul. Available from: http://www.bioprepwatch.com/news/251614-marines-drill-in-japan-on-cbrn-preparedness
[46] Chheang, V., 2011. ASEAN defense ministers meeting-plus: The "ASEAN way". *Asia Pacific bulletin*, No. 75. Washington, D.C.: East West Center.

Medicine (EWG-MM) was set up, to be co-chaired by Singapore and Japan until 2013 in cooperation with the ASEAN Regional Forum (ARF).[47,48]

Opportunities for further coordination between these regional defense and public health frameworks can also be found. In an effort to enhance regional capacity against infectious diseases, the Regional Committee for the Western Pacific of the WHO has agreed on resolution WPR/RC56.R4 – *Asia Pacific Strategy for Emerging Diseases*. A possible plan has been reported that establishes the organization's linkage with "those who handle deliberate release of biological, chemical and radiological/nuclear agents, if appropriate".[49]

Education

The second area of regional cooperation is education across the wider scientific community to promote the responsible conduct of research in helping to prevent accidental exposures and the use of science for hostile purposes. In support of this, the Asia-Pacific Biosafety Association (A-PBA) has been leading educational activities. The A-PBA is a member association of the International Federation of Biosafety Associations (IFBA) which has been closely working with the US Bio-Engagement Programme (BEP) of the Cooperative Threat Reduction (CTR) and the Global Partnership Programme of the Group of 8 (G8).

However, in the Asia-Pacific higher education sector, biosecurity as an issue for life scientists has been largely underdeveloped compared to the biosafety issue.[50] A limited number of biosecurity courses are reported from Australia, Indonesia, Japan, the Philippines, South Korea, New Zealand, and the United States. According to Revill and Mancini this trend was echoed in the European context at the time of an investigation in 2008.[51]

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[47] Ghafor, S.N.H.A., 2011. *The Inaugural ADMM-Plus Experts' Working Group On Military Medicine Meeting* [online]. Available from: http://www.mindef.gov.bn/MOD2/index.php?option=com_content&view=article&id=1070:the-inaugural-admm-plus-experts-working-group-on-military-medicine-meeting&catid=1:news&Itemid=92

[48] MINDEF Singapore., 2011. *Singapore And Japan Co-Chair The Inaugural Experts' Working Group On Military Medicine Meeting* [online]. Available from: http://www.mindef.gov.sg/imindef/news_and_events/nr/2011/jul/28jul11_nr.html

[49] United Nations., 2011a. *Regional Workshop on National Implementation of the Biological Weapons Convention in East Asia and the Pacific* [online]. Geneva: United Nations Office at Geneva. Available from: http://www.unog.ch/80256EDD006B8954/(httpAssets)/4A3C99DA505EA3A0C12578E80043668F/$file/Vice-Chair's+Summary+Philippines+27-28_06_11.pdf

[50] Minehata, M., 2010. *An Investigation of Biosecurity Education for Life Scientists in the Asia Pacific Region*. Bradford: University of Bradford.

[51] Mancini. G. and Revill. J., 2008. *Fostering the Biosecurity Norm: Biosecurity Education for the Next Generation of Life Scientists*, Landau Network-Centro Volta (LNCV), Como, Italy & Bradford Disarmament Research Centre (BDRC), Bradford: University of Bradford.

In the United States, a number of governmental branches from health, defense and foreign affairs have been promoting biosecurity education.[52] In 2004 the National Science Advisory Board for Biosecurity (NSABB) was established with a key mission 'to provide recommendations on developing programs of outreach and education on dual use research issues for all scientists and laboratory workers at federally-funded institutions' (NSABB 2008, p. 1).[53] While academic and professional institutions have developed wide ranges of educational material in order to help assist the educational process,[54] specific curricula on biosecurity issues in higher education have been limited due to the difficulty of integrating dual-use issues as part of general science education.[55]

In Japan, nascent attention is being paid to the development of biosecurity educational programs at the university level.[56] In 2011 the Science Council of Japan established a committee on dual-use issues with a view to analyzing the development of science and technology trends, developing educational modules and codes of conduct for scientists, and sharing best practice with international partners including the BWC.[57]

In both countries, a critical question is how to make structural decisions by the NSABB and the SCJ both functional and sustainable in coordination with other international partners. In terms of top-down decision making, the BWC has played a critical role in promoting international biosecurity education in recent years.[58] The 7th Review Conference of the BWC in December 2011 decided that education will be discussed under the BWC in every year from 2012-2015.[59] Regionally, the implementation of the agreement should be pursued in close cooperation with already-

[52] Australia, Japan and Switzerland on behalf of the "JACKSNNZ" (Japan, Australia, Canada, Republic of Korea, Switzerland, Norway, New Zealand), and Sweden, 2011. *Possible approaches to education and awareness-raising among life scientists*. Working Paper to the 7th Review Conference of the BWC, Geneva: United Nations.

[53] National Science Advisory Board for Biosecurity, 2008. *Strategic Plan for Outreach and Education on Dual Use Research Issues: Report of the NSABB*. Washington, D.C.: NSABB.

[54] Virtual Biosecurity Center., 2011. *Education Center* [online]. Washington, D.C., VBC. Available from: http://virtualbiosecuritycenter.org/education-center

[55] Connell, N. and McCluskey, B., 2010. Bringing Biosecurity-Related Concepts Into The Curriculum: A US View. *In*: Rappert, B., ed. *Education And Ethics In The Life Sciences: Strengthening The Prohibition Of Biological Weapons*. Canberra: Australian National University E Press, 149-164. Available from: http://epress.anu.edu.au/titles/centre-for-applied-philosophy-and-public-ethics-cappe/education-and-ethics-in-the-life-sciences [Accessed 10 November 2010].

[56] Minehata, M. and Shinomiya, N., 2010. Japan: Obstacles, Lessons And Future. *In*: Rappert, B., ed. *Education and ethics in the life sciences: Strengthening the prohibition of biological weapons*. Canberra: Australian National University E Press, 93-114.

[57] Kasuga, F., 2011. Situation Of Dual-Use Education In Japan And Effort Taken By The Science Council Of Japan, presented at the *Dual-use issues and the role of life scientists: Side event to the 7th Review Conference of the Biological and Toxin Weapons Convention*. 12 December, Palais des Nations, Geneva: United Nations.

[58] United Nations., 2008. *Report of the Meeting of States Parties*, BWC/MSP/2008/5, Geneva: United Nations.

[59] United Nations., 2011b. *News and Media* [online]. Geneva: United Nations Office at Geneva. Available from: http://www.unog.ch/80256EDD006B9C2E/(httpNewsByYear_en)/925929F5F28485EAC125796E0064AD82?OpenDocument

existing regional frameworks on biosafety, as well as relevant national academies of science.

Conclusion

While regional efforts to strengthen biosecurity are still in the embryonic stage, this paper has demonstrated the strategic value of biosecurity as a focus of security architecture-building in the Asia-Pacific region. The harmonization of disaster relief and biodefense activities gives a unique value to a possible US-Japan Alliance which would have a high potential to develop policy coordination with other regional arrangements such as the ADMM-Plus. The preventive aspect of the analysis, in terms of education, is still underdeveloped. For the establishment of regional arrangements, a constant sharing of good practice in the national implementation of biosecurity education with regional countries would be a good start. The United States and Japan both have useful experiences with which to inform dual-use topics. Further, there is a strong rationale to facilitate such a process with top-down decision-making under the BWC.

Harmonizing these multifaceted arrangements clearly indicates the possibility of effective biosecurity architecture-building activities in the Asia-Pacific region. Although the main analysis of this article focuses on the US-Japan security framework, regional cooperation, with different forms of partnership by governments and NGOs, is necessary for making the biosecurity architecture more robust. Such policy and academic analyses are a priority in coming years to effectively deal with the risks posed by wide range of biological threats in the region.

Energy Security and Methane Hydrate Exploration in US-Japan Relations

by Aiko Shimizu

Introduction

On March 12, 2013, exactly two years after the Great East Japan Earthquake ravaged the Tohoku region of Japan and created an energy crisis, the country accomplished something remarkable. Government officials of the Japanese Ministry of Economy, Trade and Industry (METI) announced that the state-run company Japan Oil, Gas and Metals National Corporation (JOGMEC) successfully extracted gas from offshore deposits of methane hydrate in the Nankai Trough, located on the Pacific coast of Aichi prefecture. This was the world's first trial production of gas from oceanic methane hydrates, giving hope to a nation that has very few domestic energy sources, as this could be a step towards tapping into a new energy source that is still not very well-understood. At a time when energy shortage is expected to arise in the near future, many countries, including Japan and the United States, are looking to diversify their energy portfolios and find new sources. Although many challenges are associated with the pursuit of methane hydrate exploration and the development of its extraction technology, Japan's recent success is raising confidence in the industry that methane hydrates may someday become feasible and enhance Japan's energy self-sufficiency. As the US and Japan seek to reduce their dependence on foreign fuel, the potential for the development of new energy sources, such as methane hydrate, should not be ignored.

Methane Hydrates and their Potential as a Future Energy Source

The global rise in demand for energy is expected to create an energy crisis in the future unless countries develop alternative sources. Natural gas, a relatively clean-burning fuel that has many end-uses like electric power generation, residential heating, petroleum refining, and chemical production,[1] may play a critical role in helping countries meet growing demand, reduce foreign energy dependence, and move toward clean energy options. America and Japan have an interest in natural gas exploration because of its potential to become an important part of their energy portfolios, and one possible source is methane hydrate.

Methane hydrates are 3-Dimensional (3D) ice-lattice structures that have natural gas trapped inside of them.[2] They are found both onshore and offshore along almost every continental shelf in the world. When methane hydrates are melted or exposed to

[1] Japan Oil, Gas and Metals National Corporation (JOGMEC), Technology Development and Technical Support: Oil and Natural Gas, 2012, http://www.jogmec.go.jp/english/activities/technology_oil/promoting.html.

[2] United States Department of Energy (DOE), "US and Japan Complete Successful Field Trial of Methane Hydrate Production Technologies," DOE – Fossil Energy Techline, May 2, 2012.

pressure and temperatures outside those where they are stable, they turn into liquid water and the enclosed methane molecules are released as gas.[3]

While methane hydrate remains an untapped energy source, it has attracted international attention because of its potential benefits. Natural methane gas can be used as a municipal gas and fuel for vehicles and fuel cells, and is a cleaner option than oil and coal.[4] For direct fuel combustion, methane provides higher energy density per weight and emits a minimal byproduct of carbon dioxide compared to coal and gasoline.[5]

Another attractive feature of methane hydrate as an energy source is that it is able to store large amounts of gas under relatively manageable pressure and temperature conditions.[6] The current preferred method of storing natural gas is the Liquefied Natural Gas (LNG) storage method, which stores natural gas through methods of cooling and liquefying. The LNG storage method can store 600 times the volume of natural gas, but the disadvantage of this method is that the temperature must be reduced to negative 162 degrees Centigrade to liquefy the natural gas, making the cooling system and storage vessel extremely expensive.[7] Another method is using a common gas cylinder, which allows for storing gas at room temperature in small amounts.[8] However, this is also an expensive method because high pressure levels and a large vessel are necessary.[9] Methane hydrate, on the other hand, can store 170 times its volume of gas at a more moderate temperature than LNG and at a lower pressure than a high-pressure gas cylinder.[10] This makes the research and development of a new methane hydrate storage medium extremely attractive.[11]

If technologies can be developed for the purpose of making methane hydrate a viable source for natural gas, it would help many countries meet the growing demand for energy, reduce foreign energy dependence, and move towards clean energy options. Countries that currently import large amounts of energy supplies like Japan also have the potential to become more self-sufficient if methane hydrate technology can be developed to make this energy source commercially viable. While estimates of Asia's methane hydrate sources are still being determined, initial median estimates place China's reserves at 5 trillion cubic meters, India's at 26 trillion cubic meters, and Japan's at 6 trillion cubic meters.[12] Based on current energy consumption levels, the methane hydrate reserves in

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[3] United States Department of Energy (DOE), "US and Japan Complete Successful Field Trial of Methane Hydrate Production Technologies," DOE – Fossil Energy Techline, May 2, 2012.
[4] *Ibid.*
[5] Rath, B.B., "Methane Hydrates: An Abundance of Clean Energy?" MRS Bulletin, 2008, p. 324, http://www.physics.ohio---state.edu/~wilkins/energy/Resources/survey/harnessing---mtl---energy---2008Apr/methyl---hyrates.pdf.
[6] Tokyo Gas, "Challenge for the future society: Burning Ice, Methane Hydrate," 2013, http://www.tokyo---gas.co.jp/techno/challenge/012_e.html.
[7] *Ibid.*
[8] *Ibid.*
[9] *Ibid.*
[10] *Ibid.*
[11] *Ibid.*
[12] *Ibid.*

the waters surrounding Japan may be able to supply the nation with natural gas for about 100 years.[13] In addition to the methane hydrate reserves that are currently explored off the Pacific coast of Aichi Prefecture, other reserves have been found in the Sea of Japan, such as the one off Sado Island in Niigata Prefecture.[14]

As the first country to establish a methane hydrate program in 1995,[15] Japan recognizes that its energy outlook could be dramatically altered if its abundant offshore methane hydrate reserves could be unlocked for commercial use. Today, the nation is heavily dependent on foreign energy sources to meet its demands. As of January 2012, the nation is only 16 percent energy self-sufficient, with domestic oil reserves of about 44 million barrels and 738 billion cubic feet of proven natural gas reserves.[16] The country is the third largest importer of crude oil after the United States and China, importing most of its supplies from Saudi Arabia, and it is the largest importer of LNG, holding over a third of the global LNG market in 2011.[17]

LNG imports rose 12 percent after the March 2011 Great East Japan Earthquake and Tsunami, which shut down the nation's nuclear power plants.[18] After the disaster, the nation's reliance on natural gas and oil increased and the focus now is to find a way to replace its lost nuclear capacity, prompting Japan to continue to lead in methane hydrate research.[19]

In the United States, natural gas accounts for almost a quarter of its energy supply and is expected to remain constant over the next few decades. Yet energy demand during this period is expected to continue increasing. The Energy Information Administration (EIA) projects that the nation would have to increase its annual natural gas production by about 10 percent over the next 25 years in order to keep up with the rising consumption level.[20]

Fortunately, the United States has an abundance of domestic natural gas supplies. In fact, natural gas production is at an all-time high due to the so-called shale gas

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[13] Tokyo Gas, "Challenge for the future society: Burning Ice, Methane Hydrate," 2013, http://www.tokyo---gas.co.jp/techno/challenge/012_e.html.
[14] Inoue, Tadaaki and Tomofumi Yonezawa, "Expectations run high on methane hydrate: Method for efficient, stable extraction of resource from seafloor pivotal for commercialization," *The Daily Yomiuri*, March 14, 2013, http://www.yomiuri.co.jp/dy/business/T130313004933.htm.
[15] *Ibid.*
[16] Addison, Velda, "Methane Hydrates Emerge As 2013Technology Wildcard," E&P Magazine, Dec. 18, 2012, accessed Jan. 17, 2013, http://www.epmag.com/Technology/Methane---Hydrates---Emerge---2013--- Technology---Wildcard_110919.
[17] *Ibid.*
[18] *Ibid.*
[19] *Ibid.*
[20] US Department of Energy National Energy Technology Lab, "Energy Resource Potential of Methane Hydrate," February 2013, p. 4.

revolution.[21] In their latest assessment, the Potential Gas Committee estimated that the country has a total natural gas resource base of approximately 2,074 million cubic feet (Tcf).[22] This amount included 1,836 Tcf of potential natural gas resources (including probable, possible, and speculative resources) and 238 Tcf of proved reserves.[23] Nevertheless, more natural gas supplies would be needed as demand continues to grow. If technologies can be developed for the purpose of making methane hydrate a viable source for natural gas, the United States could decrease its reliance on foreign energy sources. The abundance of natural gas that the US is experiencing from the shale-gas revolution will not last forever. Shale gas deposits, as a proportion of natural gas supplies in the world, may be minor in comparison to methane hydrates.[24] Although methane hydrate production may be more expensive than conventional ways of extracting natural gas, the estimated cost of methane hydrate extraction is similar to unconventional sources like shale gas.[25]

Challenges

Despite the potential advantages of methane hydrate production for both the United States and Japan, several challenges remain. First, there are technological challenges that must be addressed before methane hydrates can be extracted in an economic and safe manner. For example, methane hydrate is a solid in its natural state under the seabed or below permafrost, and recovery methods such as depressurization allow for the production of gas.[26] However, this method of changing methane hydrates into methane gas has historically posed a hazard to oil exploration because the escaping of methane gas into shallow depths of water has led to the sinking of drilling rigs.[27] Furthermore, methane hydrate extraction could cause changes in the seafloor topography or cause sediments to compact.[28] Such changes may destabilize the seafloor, causing massive underwater landslides.[29] Therefore, future methane hydrate research must involve the data collection of the effects of drilling on the surrounding environment.[30]

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[21] "Methane Hydrate and the Potential Natural Gas Boom," Natural Gas Europe, Feb. 12, 2013, accessed on Feb. 27, 2013, http://www.naturalgaseurope.com/methane---hydrates---and---the---potential---natural---gas--- boom.
[22] *Ibid.*
[23] *Ibid.*
[24] *Ibid.*
[25] *Ibid.*
[26] American Geological Institute, "Methane Hydrate Research and Development Act," AGI Government Affairs Program, Nov. 24, 1998, accessed Dec. 7, 2012, http://www.agiweb.org/legis105/ch4.html
[27] *Ibid.*
[28] LaMonica, Martin, "Will Methane Hydrates Fuel Another Gas Boom?" MIT Technology Review, March 15, 2013, http://www.technologyreview.com/news/512506/will---methane---hydrates---fuel---another---gas---boom/
[29] *Ibid.*
[30] *Ibid.*

Second, experts are certain that Arctic areas would be the most likely locations to be drilled first because there is already an existing drilling infrastructure there.[31] However, many other locations with methane hydrates, especially offshore ones like in Japan, lack a natural gas pipeline.[32] This means that government-funded researchers would have to perform expensive methane hydrate extraction trials that would last several months before commercial gas and oil companies will invest their money for exploration.[33]

Third, the type of methane hydrate extraction technologies that are currently available may not be fully utilized because not all methane hydrate deposits are similar in nature. This means that the same technology may not be applicable in all deposits around the world. For example, some of the largest methane hydrate deposits in India, most notably the ones in the K-G Basin, have been found in fractured shales, whereas those in Japan and the United States have mostly been found in sandstone.[34] This means that the extraction technology that has been developed in Japan and the United States would not be usable for the extraction of methane hydrate deposits in India unless they are somehow modified.[35] Countries like India cannot, therefore, simply purchase the Japanese and American technology for methane hydrate extraction for use in its own deposits.[36]

Fourth, although much of the initial offshore tests have taken place near the coastal areas within a nation's Exclusive Economic Zone (EEZ), future exploration will probably continue offshore.[37] Exploration could then take place in contentious waters and be especially problematic in East Asia, where territorial disputes are an ongoing issue. As methane hydrate extraction technology develops and turns potential resources into actual ones, the competition between nations to establish a presence in disputed waters may be intensified. Japan's lead in methane hydrate exploration gives them an edge in this competition, but may further strain relations with its neighbors, especially the Republic of Korea, thereby placing the United States in a difficult situation given its alliances with both countries.

Fifth, research into methane hydrate is currently limited due to short-sighted visions of the energy future. Because there is no immediate gain from gas hydrate research and development, most petroleum companies invest their R&D money on technology that better exploits currently producing resources. Crude oil production will

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[31] LaMonica, Martin, "Will Methane Hydrates Fuel Another Gas Boom?" MIT Technology Review, March 15, 2013, http://www.technologyreview.com/news/512506/will---methane---hydrates---fuel---another---gas---boom/.
[32] *Ibid.*
[33] *Ibid.*
[34] Aiyar, Swaminathan S Anklesaria, "Tapping massive deposits of 'fire ice' methane hydrate can change India's energy landscape," The Economic Times, http://articles.economictimes.indiatimes.com/2013---03---17/news/37787191_1_hydrate---reserves---methane---hydrate---japan---oil---gas.
[35] *Ibid.*
[36] *Ibid.*
[37] "Methane Hydrates and the Potential Natural Gas Boom."

probably not peak until 2020 and conventional oil production will cease in 2090.[38] Considering both the remaining oil reserves and the amount of natural gas from coal-bed methane, the industry does not have much incentive to exploit methane hydrates. Furthermore, in light of today's oil prices, it is not economical for the industry to develop the new technology necessary to extract methane hydrates. In the United States, this is also hampered by the fact that North American markets are filled with relatively inexpensive shale gas, which lowers the enthusiasm for American producers to tackle a hypothetical future source of energy. Even in Japan, Prime Minister Abe's visit to Washington D.C. in February 2013 has indicated that Japan has recently recognized the potential of shale gas in the United States, as he has asked President Barack Obama to allow exports of shale gas to Japan.[39] The ways in which Japan's interest in importing American shale gas could impact its current enthusiasm for further methane hydrate extraction research and development remains uncertain.

Last, and most importantly, there are climate-change concerns associated with the use of methane hydrate extraction technology, mainly the release of methane gas, which is a potent greenhouse gas that is 10 times more effective at insulating the planet than the two most abundant greenhouse gases, water vapor and carbon dioxide.[40] Scientific theories, such as the clathrate gun hypothesis, suggest that methane hydrate dissociation is linked to prehistoric global warming and there may be danger of global temperatures continuing to rise with methane hydrate extraction.[41] As with conventional natural gas drilling, methane gas extraction could lead to broken wells, releasing massive amounts of methane gas, and this is a concern among some experts in the field as well.[42] Methane hydrates must also be depressurized, heated, or both in order to extract gas, and this process may leak gas into the atmosphere.[43] Fears of gas leakage have created political problems in many countries, with many blocking the development of shale gas and environmentalists strongly resisting gas extraction from hydrates as well.[44]

US-Japan Cooperation in Methane Hydrate Exploration

Many challenges must be tackled before methane hydrate extraction technology becomes viable for commercial production of methane gas. JOGMEC acknowledges this and has agreed to continue to conduct impact assessments and other research to see if methane hydrate can be made into an actual energy source rather than a potential one.[45] Still, the United States and Japan should seek cooperation in the area of methane hydrate

[38] *Ibid.*
[39] Terazono, Emiko and Guy Chazan. "Japan wakes up to US shale revolution," *Financial Times*, Feb. 26, 2013, http://www.ft.com/intl/cms/s/0/20b40574---8007---11e2---96ba---00144feabdc0.html.
[40] *Ibid.*http://www.ft.com/intl/cms/s/0/20b40574---8007---11e2---96ba---00144feabdc0.html
[41] Chang, Jon M., "Demystifying Fire Ice: Methane Hydrates, Explained," Popular Mechanics, March 19, 2013, http://www.popularmechanics.com/science/energy/coal---oil---gas/demystifying---fire---ice---methane---hydrates--- explained---15239296.
[42] Aiyar, "Tapping massive deposits of 'fire ice' methane hydrate can change India's energy lands cape."
[43] *Ibid.*
[44] *Ibid.*
[45] Chang, "Demystifying Fire Ice: Methane Hydrates, Explained."

exploration as part of their joint energy security strategies. While there is little need now for methane hydrates – especially in the US with the abundance of shale gas – American and Japanese governments must realize the need to be ready to produce natural gas from methane hydrates in the future. "If you wait until you need it, and then you have 20 years of research to do, that's not a good plan," said Ray Boswell, technology manager for methane hydrates within the DOE's National Energy Technology Laboratory.[46]

Moreover, the largest concern – releasing methane gas and impacting climate change – may be mitigated for several reasons. First, some scholars have argued that methane hydrate formation may actually be less risky compared to other forms of gas drilling.[47] Because methane gas in methane hydrates are trapped inside cage-like hydrates, the flow of methane gas may stop naturally once pumping stops.[48] Second, according to a paper published by the USGS in Nature Education, only approximately five percent of the world's methane hydrate deposits would spontaneously release the gas even if global temperatures continue to rise over the next millennium.[49] Third, bacteria in the nearby soil could consume and oxidize the methane so that as low as 10 percent of the dissociated methane would reach the atmosphere.[50] Fourth, there may be another potential technology for methane hydrate extraction that could help to combat climate change. The joint research between the US and Japan at Alaska's North Slope has demonstrated that carbon dioxide can replace methane within the ice cage.[51] Once the carbon dioxide is locked inside of it, the water cage binds even tighter, thereby leaving no space for the methane to reenter.[52] This way of extracting methane gas for fuel may double as a way of sequestering the carbon dioxide.[53]

Of course methane hydrate exploration is still in its early stages and it will probably take years before natural gas from methane hydrates could become available for commercial production. Even with the development of the technology and infrastructure, a methane hydrate well could take additional years before it could produce fuel on a regular basis.[54] Scientists would also have to continue to conduct research on the impact of methane hydrate extraction on the climate and the surrounding environment in order to ensure that it would not have negative consequences.[55] Therefore, the US and Japan should not abandon their other energy options, such as shale gas, for methane hydrate exploration. Instead, the two countries should formalize a joint program on methane

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[46] Joling, Dan, "Alaska's Methane Hydrate Resource Sparks Debate Over Energy And Climate Change," *The Huffington Post*, Nov. 11, 2012, http://www.huffingtonpost.com/2012/11/11/methane---hydrate--- alaska---north---slope---climate---change_n_2113828.html.
[47] *Ibid.*
[48] LaMonica, Martin, "Will Methane Hydrates Fuel Another Gas Boom?"
[49] Chang, "Demystifying Fire Ice: Methane Hydrates, Explained, Popular Mechanics."
[50] Ruppel, Carolyn D., "Methane Hydrates and Contemporary Climate Change," Nature, 2011, http://www.nature.com/scitable/knowledge/library/methane---hydrates---and---contemporary---climate---change---24314790.
[51] Chang, "Demystifying Fire Ice: Methane Hydrates, Explained."
[52] *Ibid.*
[53] *Ibid.*
[54] *Ibid.*
[55] *Ibid.*

hydrate exploration and integrate it more fully into their existing energy cooperation mechanisms.

Cooperation in the area of energy security is not new in US-Japan relations. For example, the two governments established the US-Japan Clean Energy Technology Cooperation in November 2009.[56] Some of the initiatives that are outlined in this include bilateral cooperation for research with national laboratories and strengthening interaction in the areas of basic science and energy efficiency.[57] This framework was created because American and Japanese policies in the development of clean energy technologies were aligned. Similarly, with the United States and Japan sharing goals and interests in the potential of methane hydrate gas as part of their energy security, a more formal joint cooperation scheme in this area may be created and integrated into the existing bilateral cooperation framework in energy security.

As in many areas, the United States and Japan cooperate on the development of methane hydrate technology. Most notably, in 2012 JOGMEC, US Department of Energy (DOE) and ConocoPhillips joined forces to conduct a methane hydrate production test that injected a mixture of nitrogen and carbon dioxide into methane hydrate to release natural gas in Alaska's North Slope. The group released its results in May of that year and the test was deemed to be a success. Building on this test, the DOE is launching a new research initiative to conduct a long-term production test in the Arctic, as well as research to test additional technologies that could be used to locate, characterize, and safely extract methane hydrates on a larger scale in the coast off the Gulf of Mexico.[58] Japan, for its part, will accelerate its efforts to develop methane hydrate technology that would be necessary for commercial production so that they can launch commercial production of methane hydrates as early as fiscal year 2018.[59] Prime Minister Abe announced that this commercialization target would be included in the government's new Basic Plan on Ocean Policy, which is currently being created.[60] The two countries should formalize a process to cooperate in the area of methane hydrate extraction while enthusiasm is relatively high – at least in one of the partners (Japan). The United States may initially see this joint effort as simply a means to support Japan in its enthusiasm for methane hydrate exploration, but it will benefit in the long-run once the two countries have made progress on the development of this technology and Japan is able to gain experience in utilizing it. With this experience, Japan may be able to help the United States in methane hydrate extraction once the shale gas revolution ends. In addition to

[56] Shinkawa, Tatsuya, "Japan-US Economic Cooperation on Clean Energy," New Energy and Industrial Technology Development Organization, October 2010, http://www.brookings.edu/~/media/events/2010/10/25 percent20clean percent20energy/tatsuya_shinkawa_ppt.pdf

[57] "Fact Sheet on US-Japan Clean Energy Cooperation," Sept. 13, 2011, http://energy.gov/sites/prod/files/US---Japan percent20Clean percent20Energy percent20Cooperation.pdf.

[58] US Department of Energy, "US and Japan Complete Successful Field Trial of Methane Hydrate Production Technologies."

[59] *Ibid.*

[60] Inoue, "Expectations run high on methane hydrate: Method for efficient, stable extraction of resource from seafloor pivotal for commercialization."

joint public-private partnerships in methane hydrate research, the two countries should engage in research and discussions on the impact of extraction on the environment and climate change.

Conclusion

While challenges for methane hydrate exploration remain, it illustrates an area in which there should be more cooperation between the United States and Japan. After all, energy security is an area where both countries' goals are aligned and therefore, both have incentives to invest their time and resources into making methane hydrate a viable new energy source for the future. Overcoming the challenges to safe, economic development of this resource will require continued research to understand which exploration and production technologies will work best. Such research could be done more effectively as a joint effort between the United States and Japan. The successful joint test in Alaska demonstrated the United States' ability to produce cutting-edge technology for methane hydrate extraction, while Japan continues to remain at the forefront of this area. A more formal system of joint cooperation between the United States and Japan on methane hydrate exploration should, therefore, be created and integrated into existing energy cooperation mechanisms.

US-Japan Alliance after 3/11: A New Sense of Purpose?

By Leif-Eric Easley

Earlier versions of this text were presented at the Asan Japan Conference (Seoul, Nov. 14, 2011) and the Doshisha American Studies Summer Seminar (Kyoto, July 29, 2012). This remains a working paper; an expanded version may be published as a journal article later in 2013.

The triple disasters of March 11, 2011 left an indelible mark on a generation of Japanese. The tragic combination of massive earthquake, destructive tsunami, and nuclear accident took an enormous human toll, for which the grieving and healing continue to this day. Now, two years later, it may be appropriate to consider the effects on Japan's international relations, and particularly on the US-Japan alliance. This paper argues that 3/11 may not in itself represent a turning point for Japanese diplomacy, but that the triple disasters had a sizable effect on the national psychology of Japan, changing how people think about other shocks and how leaders respond to other challenges faced by the Japanese nation. Those shocks and challenges include domestic political realignment, overcoming economic stagnation, and dealing with a rising China. A national debate was spurred in the wake of 3/11 about how the Japanese nation should cope with risk and define rejuvenation. That debate has the potential to inject Japanese diplomacy and the US-Japan alliance with a new sense of purpose.

This paper proceeds as follows. First, addressing concerns in Japan about US policy continuity given a new line-up of officials in the second Obama term, and US resources available for the alliance given fiscal challenges at home. While these are relevant questions, Japan's national psychology is a more important variable for the US-Japan alliance. The body of the paper then considers the role of national psychology in Japanese security, economic, and environmental/energy policies. In conclusion, this paper argues that a psychology associated with proactive risk management and policy innovation – rather than with risk aversion and resistance to change – will empower Japan to be the international partner that the United States welcomes and that the world urgently needs.

Key Variable: Japan's National Psychology

Japanese concerns about US decline, distraction, and/or abandonment are perennial. One need only review a history that includes the Vietnam War, Nixon shocks, American entanglements in the Middle East, alleged "Japan passing," and challenges of integrating China into the global system to understand why. Concerns about US staying power in the face of competing international priorities and significant domestic challenges are not new. The "fiscal cliff" and "sequestration" are but the most recent chapter in this story. While American desire and ability to be a capable and reliable ally, are variables worth discussing, these factors are much less volatile and mutable than frequent newspaper editorials suggest.

There is indeed worrisome political polarization in the United States over issues of taxes and spending, involving fundamental questions about the size and role of government. It is natural – and rational due-diligence – for international observers to look inside America's domestic political processes and ask: "what are the potential implications for US foreign policy?" Largely indiscriminate spending cuts will affect defense allocations and poorly timed "anti-stimulus" policies could senselessly push the world's largest economy back into recession. Meanwhile, post-Iraq and Afghanistan, Americans are reluctant to take on international challenges and public opinion is increasingly budget conscious.[1] People are worried about their jobs, their friends' jobs, and their kids' jobs. It is reasonable to ask how this will affect US alliance policies and the US role in East Asia.

In my analysis, current dangers of the US being "stretched thin" may manifest themselves in delayed procurement of certain systems (e.g., the F-35) and the scale of certain exchanges (e.g. combined exercises on humanitarian assistance and disaster relief), but the strategic implications will be limited and US policy toward Asia will remain consistent involving attention to strong alliances. This is because US policy in the region is structurally determined in at least three important ways.

Examining the balance of power considerations, the rise of China requires US policymakers to think about how to maintain a peaceful balance of power in the region. This rules out a precipitous US disengagement from Asia. A policy that even hints at "drawdown," much less "withdrawal," would clearly be against US national interests.

Second, many American strategists say the economic center of gravity of the world is shifting toward Asia; such that the United States must engage with the region more, not less. Hence, the advent of the US "pivot" or "rebalance" to Asia, which is really more about staying power, stability, and consistency than anything else.[2]

Third, because of budgetary constraints, and because truly global problems cannot be solved by any one country alone, the United States needs to enhance cooperation with allies and partners.[3] America has invested much into its partnerships in Asia since World War II. US allies in Asia are successful democracies and global trading states with important contributions to make. Recent alliance documents provide no hint of the US pulling back, nor do they exclusively focus on North Korea. Nor are they about

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[1] Dina Smeltz, "Foreign Policy in the New Millennium: Results of the 2012 Survey of American Public Opinion," *Chicago Council on Global Affairs*, 2012, http://www.thechicagocouncil.org/UserFiles/File/Task percent20Force percent20Reports/2012_CCS_Report.pdf.

[2] See US Secretary of State Hillary Clinton, "America's Pacific Century," *Foreign Policy*, November 2011, http://www.foreignpolicy.com/articles/2011/10/11/americas_pacific_century ; US Secretary of Defense Leon Panetta, "Remarks at the Shangri-La Dialogue in Singapore," *DOD Transcript*, June 2, 2012, http://www.defense.gov/transcripts/transcript.aspx?transcriptid=5049.

[3] The words "allies" and "partners" appear over 100 times in the official statement of American global strategy: "National Security Strategy of the United States of America," The White House, May 2010, http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf.

containing China; instead, they specify a long list of international issues on which the US, Japan, South Korea, and other partners can cooperate.[4]

In addition to these strategic, economic, and multilateral considerations, there is further evidence of consistency in US domestic politics. Since US national interests in Asia are largely structurally determined and this is understood across the political spectrum in policymaking circles, US policy toward Asia is impressively bipartisan. The priorities of the current Democratic administration are not that different from the previous (or possible future) Republican administration. Regardless of which party is in power, US allocation of resources and substantive policy toward Asia is unlikely to change much.

Continuity in US Asia policy means that American domestic politics is not the most important variable in the future of Japan-US relations. Instead, the big variable is Japan – more specifically, Japan's national psychology. What kind of country does the next generation of Japanese want to be? The heart-wrenching triple disasters on March 11 came after Japan witnessed a sea-change in its domestic political party system, which came on the heels of China overtaking Japan as the second largest economy in the world. Outside observers are asking what these shocks mean for Japan's role, position and very identity. What path will Japan chart for itself going forward?

In many ways Japan has been dealt a difficult hand in terms of geography. Not only must the nation cope with earthquakes, tsunamis, and typhoons, but there is proximity to other national actors that Japan is concerned about. North Korea, with its nuclear weapons and missile programs, is chief among them. Many Japanese are also concerned about the transparency of China's defense modernization. Japan is in much closer to China's military than the United States. This is particularly evident as of late, with China's naval expansionism and apparent political determination to militarily contest Japanese control over the Senkaku Islands.

In addition to natural and man-made disasters and challenges of geopolitics, we often hear of debates over internal factors of national decline. People who worry about Japan's decline often point to its demographic situation. They point out that Japan has an aging society and shrinking population. The birthrate is low and there are not as many immigrants coming to Japan as to the United States or even to South Korea. People wonder if Japan becomes caught up with this demography problem and primarily concerned with domestic social, political, and economic issues, will Tokyo become more inward-looking and less engaged in international politics? That is a real concern not just

[4] "United States-Japan Joint Statement: A Shared Vision for the Future," White House Office of the Press Secretary, April 30, 2012, http://www.whitehouse.gov/the-press-office/2012/04/30/united-states-japan-joint-statement-shared-vision-future; "Joint Vision for the Alliance of the United States of America and the Republic of Korea," White House Office of the Press Secretary, June 16, 2009, http://www.whitehouse.gov/the-press-office/2012/04/30/united-states-japan-joint-statement-shared-vision-future; "Trilateral Statement Japan, Republic of Korea, and the United States," State Department Office of the Spokesman, Dec. 6, 2010, http://www.state.gov/r/pa/prs/ps/2010/12/152431.htm.

for Japan's decline in power, but in terms of Japan fading from its rightful and important place on the international stage.

Japan's economy is still the third largest in the world. Japanese international actors, whether in business or diplomacy, still have many of the most important roles and functions in global politics and economics. But the global perception is that Japan is losing its relevance. Friends of Japan are asking what the Japanese plan to do to either reverse that trend or to develop a new role and paradigm for Japan's international standing and contributions. Issues of geography and demography, while incredibly important for Japan's trajectory, do not constitute an irresistible fate. The old says "geography is destiny." Today, some say demography is destiny, however, but decline is not necessarily Japan's destiny.

The old refrain about Japan being "an isolated island nation, devoid of natural resources," conjures up an image of a collection of rocks, weathered by external forces and gradually eroded over time. But Japan has consistently shown throughout history that is not its destiny. Japan has been innovative; the Japanese brought in the best technology and institutions from abroad, put their own spin on them, and multiplied Japan's importance and role in international politics. How that sort of rebirth in politics and economics will happen again involves Japan developing a new national psychology. It depends on the collective will to shape the future and to deal with problems that as of now seem so very intractable.

Security Policy: National Interests and International Role

There are dangers for maintaining effective security policy when important decisions are delayed and budgetary issues are allowed to arrest forward progress. To the extent that financial belt-tightening presents issues for American security policy, this means needing to do more with allies via more efficient and effective burdensharing. This is one of the main reasons why US officials often try to bring Tokyo and Seoul together for more trilateral cooperation with the United States – to get more bang for the yen/won/dollar in terms of security cooperation.

From the perspective of Japan, collaborative efforts were visibly brought home with the triple-disaster. Many Japanese may not have appreciated the role of the Japanese Self-Defense Forces until they saw their disaster relief capabilities after the tragic events of March 11. And the level of cooperation between Japanese SDF and US forces in Japan was something unprecedented, at least as captured by the evening news. That helped raise public awareness for the importance of cooperation between the two militaries. It extends not just to responding to contingencies from storms or earthquakes, but also military contingencies in the region. A high level of cooperation between forces can save resources and add value to outcomes.

With the value of force proximity and interoperability illustrated more people realize that the Futenma base issue deserves careful attention. If the parties fail to make progress, Futenma will be left as a festering sore, and if it is dealt with in a dogmatic or

unilateral way, it could potentially open up a wound in US-Japan relations. Americans appreciate that, and obviously there is still a long road ahead for the political process between Tokyo and Okinawa. Japanese are responsible for leading that process and implementing commitments based on shared interests. Moving forward and getting to resolution depends on the national psychology.

For example, the safety of the V-22 *Osprey* plane-helicopter hybrid aircraft was vigorously questioned in the Japanese media. This gets at something central to the national identity debates in Japan today. There has been a demand in Japanese national psychology for absolute safety. Every nuclear power plant has to be 100 percent proven that it will not have an accident before it can restart. A military aircraft has to be 100 percent safe before it can be deployed to Japan. The problem, of course, is we do not live in a world of that sort of certainty. There is no 100 percent safe source of power. There is no 100 percent safe aircraft. This issue of insisting on 100 percent safety is really an issue of national psychology. The *Osprey* is just one example where managers of the US-Japan alliance realized there is a need for better kit, better capabilities, and better specific assets stationed in Japan for Japan's own defense and for purposes of regional security. Upgrading that kit is a priority, but it is not going to involve 100 percent safety. So we have to engage in a conversation about trade-offs, about costs and benefits, and about what people are comfortable with. People need to come to consensus about what the nation is willing to do to achieve larger strategic interests like the defense of Japan, regional security, energy security, and supporting the growth of the economy.

In addition to the national interests that Japan has at stake in these issues of security, there are also questions about Japan's international role. Increasingly, not only does the rest of the world appreciate and recognize Japan's international contributions, but people are calling for those contributions to be increased because they are so needed. Maritime security vis-à-vis anti-piracy efforts or capacity building in ASEAN are just two examples. Japan has incredible naval expertise – in coast guard practices, the technology of these ships in communications and monitoring, and so on. With these capabilities, Japan is already helping ASEAN countries. There are many other opportunities to reach out to potential security partners.

As a professor in Seoul, I sometimes ask my students, "How many satellites does South Korea have observing North Korean activity?" They guess maybe 10 or 12 and are surprised the answer is arguably just one. But Japan has several. On the other hand, Tokyo's human intelligence vis-à-vis North Korea is not nearly as good as that of the ROK. Meanwhile, both countries are allies of the United States and the US has close intelligence sharing relationships with both. But what if the Japanese satellites pick up something very important and it is shared with the United States and the Americans want to pass it on to South Korea? Or what if South Korean spies acquire important intelligence that the Americans would then like to share with Tokyo? There could be difficulties in such situations because Japan and South Korea do not have a GSOMIA, a basic agreement for military intelligence sharing. The ROK already has such an agreement with a number of other countries, but because of historical issues and the

electoral cycle in South Korea, the effort to sign a Japan-ROK GSOMIA was politicized and derailed.

When I ask my students, "Don't you think the South Korean government should get to know when the Japanese find out something important about North Korea, like maybe a missile was being moved to the platform? And don't you think Seoul needs good relations with Tokyo if the US-Japan alliance is needed for logistical support in the event of a contingency on the Korean peninsula?" An interesting reply goes: "Professor, of course we want that, but the agreement needs to be signed in the right way or it will be like 1905 and smell of colonialism all over again." Obviously, there is no logical connection between GSOMIA and colonialism. But the problem is these issues get caught up with domestic politics and especially with the electoral cycle in South Korea.

This is frustrating to the Japanese side because many Japanese feel they have tried to put history in the past and tried to apologize. Moreover, when North Korea attacked South Korea in 2010, Japan was strongly supportive of South Korea. There was even an exchange of South Korean military to observe US-Japan naval exercises and Japanese military to observe US-South Korean naval exercises. Such cooperation gets built up and GSOMIA appears about to be signed, and then abruptly efforts unravel. So even though Japan's international contribution is important, some Japanese ask why bother to put in the effort if it does not come to fruition?

At this point, we need to recognize that progress on security cooperation is not going to be linear. Japanese, with their own democracy, are very aware how making international agreements can be complicated by domestic politics. Sometimes emotional or opportunistic politics can derail or delay policies that are in the national interest. A mature democracy knows policymaking is a messy process. A mature democracy also knows that we must not forget or ignore history, but at the same time, we must not be shackled by it either. Recognizing this, Japan can use lessons from the past to build international cooperation with the kind of proactive patience that built the Japanese economic miracle.

Relevant security cooperation is not limited to the US and South Korea. Japan is already doing more with Australia. Japan has also made a number of important initiatives for working more closely with India, and there is much potential in Southeast Asia. But furthering these partnerships depends on Tokyo's initiatives, so we return to the fundamental question of whether such proactive internationalism is in Japan's vision of its post-3/11 identity. Japanese national interests are clearly with having adequate capabilities at home and robust coordination abroad to ensure Japan's security. Will the national psychology facilitate or impede those aims? Some regional voices express concern about Japan revising its constitution and returning to militarism of decades past. But those familiar with Japanese domestic politics and the constraints of national psychology know that the real concerns are Japanese political paralysis and unrealized international contributions.

Employing Rather than Scapegoating Globalization

Just as with security policy, Japanese national self-conceptions and worldview could continue to impede or begin to facilitate progress on economic recovery. Under globalization, there is a general sense among the public that more must be done to protect workers, save long-established industries, and revive the economy. Owing to these concerns and beliefs about "who we are" versus the rest of the world, globalization often gets scapegoated or blamed for problems related to globalization, but for which globalization is not the primary cause.

Globalization is a divisive concept. I recently taught a course on globalization in Korea and half my students thought globalization was the best thing ever because they love their iPhones, they love their iPads, they even like Mexican food. But half my students hate globalization because they think it is bad for Korean workers and especially for Korean agriculture, sustainable rural lifestyles, and food security. They think the Korea-US Free Trade Agreement will usher in American behemoths, big companies in pharmaceuticals or other services that will trounce their South Korean counterparts and take over the Korean market.

Neither half of my students is entirely right or wrong, because globalization is such a messy amalgamation of different complex processes. Globalization is simply not something you can be for or against, or wish to continue or stop. Maybe better regulations are needed to prevent distortions of markets and the runaway capitalism that led to the recent global financial crisis. At the same time, economies need to harness market forces in positive ways to reap the benefits of comparative advantage and foster the competition that drives innovation and economic growth. After 3/11, more and more analysts recognized how important Japan is to global supply chains and how important international trade is for Japan. The disasters made clear what a precarious position Japan would be in if it does not quickly rebuild, reform, and get power to its companies. The danger is that businesses and production move to other places where there is ample energy, maybe cheaper labor or other factors of production, and less uncertainty.

The 3/11 triple disaster was a shock to the system in Japan, forcing some important conversations about globalization and structural reform. Whether related to the Trans-Pacific Partnership (TPP) or trilateral initiatives among Japan, South Korea, and China, these conversations are really about making globalization work better. But domestic politics tend to put roadblocks in the way. If those initiatives are going to be realized, there has to be commitment by Japan's national psychology: a belief that Japan wins from international engagement. Japan is going to be better off by increasing its productivity in services, liberalizing its agricultural sector, unleashing its young entrepreneurs, and looking for ways that trade benefits consumers. Greater openness will help end the old style protection of uncompetitive or unsustainable industries and let the market punish businesses with dodgy practices. International competition and good governance can disincentive corporate malfeasance and benefit society as a whole. Striking a productive balance between market liberalization and regulation takes continuous effort, debate, and give-and-take. It will not work if the national psychology

scapegoats globalization. The productive way to think about globalization is to take full advantage of its benefits while mitigating and managing its negative effects. That pragmatic logic would be well applied to energy policy as well.

Pro-environment, Pro-business Energy Policy

Some scholars who study civil society saw the sustained anti-nuclear protests in front of the Kantei and concluded, "Japanese civil society is back." Other observers of Japanese politics focused on the Osaka Ishin no Kai and smaller movements trying to harness popular resentment about ineffectual government. Many people believe Japan needs to shake things up, and after 3/11, anti-nuclear sentiment became a rallying point. The public is concerned about safety and a nuclear allergy is particularly understandable in the only country to have suffered atomic bombings. The "nuclear village" is also an issue with the closeness among experts, operators, and regulators. Institutions and practices certainly call for improvement after the events of March 11. That being said, when we talk about energy security, it is very difficult to let all nuclear power plants go offline and hope that the slack can be picked up by other methods without some very serious trade-offs.

There is a fundamental problem about where cities, companies, and citizens get their energy. When some of your own constituents have their lights going off or air conditioning not working or factories standing idle, then pragmatism kicks in. A reasonable cost-benefit analysis needs to be supported by a national psychology that recognizes that risk cannot be zero. If the national psychology is such that you demand a perfect decision before making a decision, then you end up having false hope and false safety while putting off a decision. Not making a decision is actually a kind of decision, and usually a bad one.

Japanese (not Americans or anyone else outside Japan) will have to decide what Japan's energy policy should be. Clearly, not-in-my-backyard (NIMBY) politics has long been an issue in the United States as well. The US used to be the world leader in nuclear power but has fallen behind over the years because of domestic resistance to building new reactors. I was recently at an international conference in Seoul with high-level officials talking about a nuclear future where China has the most nuclear reactors in the world. Then how does the United States, with a dwindling fleet of old nuclear reactors, possibly tell China, "hey, we are concerned about whether your reactors are proliferation-resistant and adequately safe, and we would like you to follow these rules." If the United States is a declining nuclear energy power, how is that going to work out diplomatically?

Japanese must be concerned about such security and safety issues and about climate change targets. While other advanced economies are reducing their emissions, Japan is putting ever more CO2 into the atmosphere, because it is forced to burn more fossil fuels while most of its nuclear power plants are offline. On top of this, Japan's energy situation is frankly worse than America's. In the US, there are a couple new nuclear reactors being built, though completion is slowed by NIMBY politics,

environmental controversy, construction delays, and financing problems. However, since there is such a huge capital investment required up front, the biggest reason why the United States is not pursuing nuclear power with full gusto is the shale gas boom. The energy alternatives for the United States are available and potentially very cheap, cheaper than nuclear power. Japan does not have that luxury.

Nuclear power is a serious energy security issue for Japan because without any domestic production from nuclear power, the country is extremely dependent on outside sources of energy. Japan has to import its traditional energy, and its imports of fossil fuels have turned Japan's historic trade surplus into a deficit. The decision not to make a decision on nuclear power is affecting the trade balance. It is affecting business calculations since companies are worried about their supply and cost of energy and may be looking to relocate elsewhere. And it could be affecting geopolitics, because Tokyo has to respond when the United States comes around and says, "Look we are concerned about country X (e.g., Iran), and we really prefer you not import so much oil from them."

Alternative sources of energy can be the answer to these security, economic, environmental, domestic political, and geopolitical challenges. But it is simply not possible to ramp up solar, wind, geothermal, and all these wonderful alternatives overnight, no matter how much people protest, conserve, and invest. This again returns us to national psychology. Are Japanese willing to support, indeed demand, an energy policy that meets the economic needs of today and aggressively forges a sustainable future for the environment? That involves accepting certain risks and pursuing new opportunities. With that frame of mind, Japan is actually in the position to be a global leader, to show the rest of the world how to balance costs and benefits and how to make the transition to greener technologies.

What is more, energy is just one area where Japan is well positioned to be a model and international leader. Another is in dealing with its aging society. Japan is the first country to face this challenge on such a scale, but it will not be the last. China may get old before it gets rich – a serious demographic issue is on the horizon owing to China's one-child policy. Japan already has a huge demographic problem to deal with, but once Japan figures out how to do so, the rest of the world is going to study that case, learn from Japan's lessons and probably buy some of its solutions. On energy security, demographic challenges, and other issues, experts around the world are looking for Japan's leadership and inspiration.

The World Needs Japan and the US-Japan Alliance

I believe Japanese are very aware of these challenges of security, globalization, and energy. When it comes to the US role, Americans will benefit by learning from what Japan decides to do on these big questions. The United States also has a role in consultation and cooperation to help Japan move forward. But the current situation is not a question of whether US power is declining, the US alliance commitment is eroding, or US attention to Asia is waning. The key variable is Japan's national psychology.

Do Japanese agree with a more risk-taking, innovative, forward-leaning approach to their politics and international role to address today's pressing issues in productive ways? Whether we are talking about climate change or human security issues, the world needs Japan's contributions. Other countries – not just the United States, but nearly all nations – agree about this. My South Korean students, who many assume are preoccupied with historical and territorial issues, when asked: "Does Japan need to make contributions that show leadership on climate change, on human security, on effective official development assistance (ODA) to Africa and elsewhere?" they reply absolutely yes. Japan's leadership is welcomed and is needed urgently; of course it is up to Japan to decide when and how to lead.

A national psychology that supports more risk-taking, entrepreneurial innovation, international immigration, and greater roles for women and local governments could provide the answers for dealing with energy security issues, sustainable development, and an aging society. The world is looking for the next generation in Japan to stand up and reject "Galapagos Japan." Galapagos Japan makes things just for Japanese, a Japan that is happy doing things the Japanese way, a Japan that brings up students just speaking Japanese and not sending them abroad to interact with their colleagues in other languages. In recent years, Japanese national psychology maintained that it is good enough to be comfortable in Japan, it is alright to look back at the lost decades and say, "that wasn't so bad...we can still manage to be content."

The question is whether after 3/11 Japanese are going to revise the national psychology and say, "look, we need a big Japan – a Japan that innovates, that takes risks, that cooperates with its partners." That Japan would reach out to China from a position of strength and confidence to build regional cooperation. That Japan would deepen the US-Japan alliance for dealing with many of the serious traditional and non-traditional security issues that face the next generation. That would be a Global Japan. And there are signs this shift in national psychology is already underway.

Japan recently did away with the "1955 System" or the "One-and-a-half Party System." But the Democratic Party of Japan faced serious difficulties implementing policies. Many observers thought the DPJ would change Japan, change the national psychology. But ironically, it may be with the return of the LDP that Japanese politics finds a new equilibrium and Japan's national psychology is revitalized. Shinzo Abe was arguably forced to make an early exit last time because he let an obsession with changing the national psychology get ahead of bread-and-butter issues. Abe's LDP is determined not to make that mistake again. Japan's current leadership is focused on improving the economy and winning the Upper House elections while building long-term support for more aggressive reforms and international engagement.

Thus, for the US-Japan alliance, the main variable going forward is the collective decision by Japanese about what kind of nation they want to be. Japan's friends throughout the Americas, Asia, Europe, and Africa do not want to see a passive, defensive, insulated Japan that eschews change and clings to "good enough." The world needs a globally minded and engaged Japan. The "lost decades," the rise of China, and

3/11 will be formative experiences for a new generation of political, social, and business leaders who can renew Japan's identity and give Japan-US relations a new sense of purpose.

Japan-US Cooperation in HA/DR: A Japanese Perspective

By Akira Igata

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Introduction

East Asia is currently undergoing a change in power balance due to the rise of China.[1] Amidst this changing environment, Japan is facing two conflicting external pressures. On the one hand, the US has sought to push Japan toward further burden-sharing in the sphere of international security.[2] On the other hand, any attempts by Japan to play a greater role in issues pertaining to international security have been historically met with skeptic eyes from the surrounding countries. In addition to these external pressures, Japan must deal with two internal pressures: relative decline in state power due to its aging population and domestic legal constraints that forbid Japan from taking radical new security measures in the area of traditional security issues. Indeed, new cooperation measures that Japan can realistically take with the US in the area of security are limited at best.

Another recent development in the East-Asian region is the increasing number of natural disasters. According to EM-DAT, the number of reported incidents of natural disasters globally in a given year was around 200-250 during the decade from 1987 to 1997. This number has almost doubled to 400 since the year 2000.[3] Asia is among the most disaster-prone areas with 44 percent of all the reported incidents. Furthermore, the magnitude of damages in Asia has been larger than other regions as well, accounting for 86.3 percent of all affected populations, 83.1 percent of all death tolls, and 75.4 percent of total financial damages.[4] One can easily recall recent memories of large-scale natural disasters, such as the Gujarat earthquake (2001), Sumatra earthquake (2004), Sichuan earthquake (2008), Cyclone Nargis (2008), Pakistan Floods (2010), Christchurch earthquake (2011), and Great East Japan Earthquake (2011).

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[1] For a debate on whether this power shift is occurring or not, *see*: Michael Beckley. "China's Century?: Why America's Edge Will Endure." *International Security*, Vol. 36, No. 3 (Winter 2011 / 12): 41-78; and Joshua R. Itzkowitz Shirfrinson and Michale Beckley. "Correspondence: Debating China's Rise and US Decline." *International Security*, Vol. 37, No. 3 (Winter 2012 / 13): 172-181.

[2] For a recent example, *see*: Richard L. Armitage and Joseph S. Nye. *The US-Japan Alliance: Anchoring Stability in Asia*. Center for Strategic & International Studies, August 2012: 16.

[3] P. Hoyois, R. Below, J-M. Scheuren, and D. Guha-Sapir. *Annual Disaster Statistical Review: Numbers and Trends 2006*. Centre for Research on the Epidemiology of Disasters, Institute of Health and Society, Université catholique de Louvain. May 2007: 18. However, note that EM-DAT classifies "Asia" as consisting of countries from East Asia, Southeast Asia, South Asia and the Middle East.

[4] Debby Guha-Sapir, Femke Vos, Regina Below and Sylvain Ponserre. *Annual Disaster Statistical Review 2011: The numbers and trends*. Centre for Research on the Epidemiology of Disasters, Institute of Health and Society, Université catholique de Louvain. July 2012: 2, 13, 29-30.

Until recently, the actors that engaged in international relief efforts immediately following a natural disaster have been civilian groups, like UN agencies or international NGOs. However, given the increasing number of disasters and damages that they inflict, states have begun to increasingly use their military for disaster-relief operations. As I will discuss in more detail below, Japan is no exception – it has started to send (Self-Defense Forces (SDF) for international Humanitarian Assistance and Disaster Relief (HA/DR) missions in the last two decades. In the wake of 3/11, with the image of SDF personnel tirelessly working to help the victims in the Tohoku region still vivid in the memories of the Japanese public, the role that SDF plays in disaster relief operation is likely to gather support.

Given these three trends, this paper argues that the best way for Japan to increase its presence in the area of security with the US is in strengthening its HA/DR activities. This paper will proceed in the following manner. First, I will give a brief discussion of how Japan's HA/DR activities by the SDF have evolved over the last four decades. I will then present four incentives that Japan has in increasing its HA/DR activities: 1) Promotion of Human Security; 2) Historical support from the public; 3) Tool of public diplomacy/soft power; and 4) Enhancement of traditional security. It will end with a short conclusion on how Japan should implement these policies.

History of Japan's HA/DR activities

The first instance of Japan's international dispatch of personnel in the area of HA/DR is in the late 1970s, when it sent a rescue team to deal with the flood of refugees that fled from Cambodia and Vietnam to Thailand following the civil war. [5] This incident made the Japanese government realize that it was unprepared to deal with such issues, which led to the creation of the International Emergency Medical Team in 1982. Following the large-scale natural disasters that took place in the 1980s, such as the earthquake in Mexico and the volcano eruption in Colombia, the Japanese government enacted "Japan Disaster Relief (JDR) Law." This law officially established the "Japan Disaster Relief Team." But this team only consisted of three groups, all civilian: the rescue team, the medical team, and the specialist team.

It was only in 1992, when the Japanese government passed the "Peace Keeping Operation (PKO) Law" following the Gulf War, that the JDR Law was amended to include the SDF in international emergency relief activities. The PKO law is applicable when the dispatch is based on disasters caused by conflict, whereas the JDR law is applied to natural or man-made disasters, such as collapsing buildings. The analysis in this paper will focus on cases where the dispatch was done under the JDR law, excluding those cases where the SDF were sent under the PKO law and the line between disaster relief and combat is much murkier.

[5] This paragraph draws from: Japan International Cooperation Agency. *Kokusai Kinkyuu Enjyo to JICA [Emergency International Aid and JICA]*. <http://www.jica.go.jp/jdr/pdf/pamphlet_jdr_j.pdf>

Table 1: List of Japan's dispatch of SDF[6]

Year	Country	GSDF	MSDF	ASDF
1998	Honduras	80		105
1999	Turkey		430	
2001	India	16		78
2003	Iran			31
2004	Indonesia (Thailand / Indonesia)	228	1183	82
2005	Russia		346	
	Pakistan	147		114
2006	Indonesia (Java)	149		85
2009	Indonesia (Sumatra)	10		
2010	Haiti*			97
	Pakistan*		154	333
2011	New Zealand			40

Note: The numbers for GSDF/MSDF/ASDF represent the number of dispatched SDF personnel. The number of personnel for cases indicated by the asterisk does not include those from the integrated liaison and coordination center or the medical rescue teams.

There have been 120 total JDR team dispatches since the enactment of the JDR law, but the SDF has been involved in only 12 (See Table 1). Even though the total number is still small, two of these cases were in the 1990s, whereas it went up to nine dispatches during the 2000s. In addition to the increasing number of SDF involvement in disaster relief operations, the rapidness of their response has been improving as well. In the two cases during the 1990s, the SDF was dispatched days and weeks after the disasters hit Honduras and Turkey. However, the decision to send the SDF out has been made much quicker in recent cases, as can be seen in the SDF dispatch to Christchuch in 2011, when the decision was made just one day after the earthquake.

This increased presence of the SDF is reflected in its participation in various international exercises as well. Starting with the joint military exercise "Cobra Gold" in 2000, the SDF has participated in multilateral HA/DR related exercises. These include the disaster-relief exercise conducted within the framework of ASEAN Regional Forum (ARF-DiREx), one of the largest international maritime exercises hosted by the US Navy (RIMPAC), as well as exercises focusing on humanitarian civic assistance missions (Pacific Partnership).[7]

This brief history shows that Japan has been slowly increasing its use of SDF for HA/DR activities. Given the incremental increase, Japan should further proceed in this direction at a faster pace based on four incentives that the Japanese government has in engaging in HA/DR activities.

[6] Asagumo Shimbunsha Hensyuukyoku. *Bouei Hando Bukku 2012 [Defense Handbook, 2012]*. (Tokyo: Asagumoshimbunsha, 2012): 738-754.

[7] For a list of multilateral exercises that the SDF has participated in, which deal with nontraditional security issues, *see*: Ministry of Defense. *Nihon no Bouei: Bouei Hakusho [Defense of Japan: Defense White Paper]*. (Ooita: Saiki Insatsu, 2012): 269.

Pushing forward the HA/DR agenda: Japan's four incentives

(1) Promotion of Human Security

First off, increasing Japan's presence in the area of HA/DR would not be considered as an abrupt change in direction for Japanese diplomacy. In fact, HA/DR would fit nicely with one of the central pillars of Japanese diplomacy since the late 1990s – Promotion of Human Security.

Starting from the speech made by Prime Minister Keizo Obuchi in 1998 and manifested in the Diplomatic Bluebook published in 1999, the Japanese government has officially taken "Human Security" as a central concept for Japan's diplomacy.[8] According to Fukushima, Japan has implemented its "Human Security" agenda through "diffusion of the concept through intellectual dialogue" and "development aid."[9] However, the concept of "Human Security" can be interpreted in two ways. In a narrow understanding of "Human Security," the concept only includes "freedom from fear," which includes conflicts and violence. But in a wider understanding, "Human Security" also includes "freedom from want," which includes natural disasters.[10] And there is great evidence to suggest that the Japanese government has interpreted the concept of Human Security in the wider sense starting from 2007.[11] In other words, HA/DR activities, although not explicitly stated, can be interpreted as a "promotion of Human Security."

(2) Historical support from the public

Secondly, HA/DR activity has wide-ranging support from the Japanese public, which is a necessary condition for any country in pursuing its foreign policies. Needless to say, the support for SDF disaster-relief activities has skyrocketed since 3/11. In a public opinion that asked "how do you assess the disaster-relief activities of the SDF related to 3/11," an overwhelming 97.5 percent of the public gave a favorable assessment.[12] In the same survey, 82.9 percent of the respondents answered that "the *raison d'être* of the SDF" is "disaster relief," which was greater than the 78.6 percent who answered "securing state safety (preventing foreign aggression)."[13] Similarly,

[8] Ministry of Foreign Affairs. *Gaikou Seisho [Diplomatic Bluebook]*. (Tokyo: Ookurashou Insatsukyoku, 1999): 98-99.

[9] Akiko Fukushima. *Ningen no Anzen Hosho: Guro-baruka suru Tayou na Kyoui to Seisaku Fure-muwa-ku [Human Security: Globalizing various threats and policy framework]*. (Tokyo: Chikura Shobou, 2010): 94. For an account of "Human Security" being one of the central pillars of Japanese diplomacy, *see*: Yoshihide Soeya. *Nihon no "Midoru Pawa-" Gaikou: Sengo Nihon no Sentaku to Kousou [Japan's "Middle Power" diplomacy: Choices and Concepts of Post-war Japan]*. (Tokyo: Chikuma Shinsho, 2005): 211-216. Also *see*: Hiroshi Ooe. "Atarashii Nihon Gaikou: 'Ningen no Anzen Hoshou' no Kanten Kara [The new Japanese diplomacy: From the perspective of Human Security]." In Tetsuya Takahashi and Susumu Yamakage Eds. *Ningen no Anzen Hoshou [Human Security]*. (Tokyo: Toukyou Daigaku Syuppankai, 2008): 230-242.

[10] Fukushima, *Human Security*: 34-35.

[11] Ibid. 38.

[12] Naikakufu Daijinn Kanbou Seifu Kouhou Shitsu. *Jieitai / Bouei Mondai ni Kansuru Yoron Chousa [Public opinion poll on the SDF and defense issues]*. (2012): Question 6.

[13] Ibid. Question 4.

"disaster relief" tops the list for the question on "the role that the SDF should give weight to in the future" with 76.3 percent.[14]

Table 2: The percentage that "disaster relief" was chosen as an answer[15]

	1997	2000		2003	2006	2009	2012
Raison d'être of SDF	66.9 percent (1)	67.1 percent (1)		71.8 percent (1)	75.3 percent (1)	78.4 percent (1)	82.9 percent (1)
Role that the SDF should give weight to in the future	88.4 percent (1)	67.5 percent (1)		85.6 percent (1)	67.1 percent (1)	73.8 percent (1)	76.3 percent (1)

Note: The numbers in the parenthesis indicate the ranking for that answer. The respondents could only choose two answers at most from several possibilities for the surveys in 1997 and 2000, but this restriction was lifted after 2003.

The important point to note here is that this trend is not a temporary phenomenon that will likely fade away after the memory of 3/11 has faded. As Table 2 indicates, the Japanese public has continuously answered that disaster relief was the number one *raison d'être* of the SDF, and that disaster relief should be the priority for the future role of the SDF. To be sure, the percentage for 2012 is especially high compared to the previous years. However, the fact that over two-thirds of the population have continuously favored the role of disaster relief for the SDF over all other fundamental roles that militaries usually are vested with, such as "preventing foreign aggression," "responding to ballistic missile attacks," or "responding to unidentified ships or armed agents" shows that this overwhelming support for the SDF's role in disaster relief operation has deep roots among the Japanese public.

(3) Tool of public diplomacy / Soft power

Thirdly, Japan's increased presence in HA/DR activities can be seen as an effective "public diplomacy," which would constitute as a source of Japan's soft power that can be used to pursue its national interests.[16]

There are various precedents in other countries on this point. For instance, the HA/DR activity that the US has conducted after the Sumatra earthquake in 2003 had drastically shifted the image of the US among the Indonesian population. Before the earthquake, the favorability of the US in Indonesia was a low 15 percent, but after the

[14] Ibid. Question 5.
[15] Naikakufu Daijinn Kanbou Seifu Kouhou Shitsu. *Jieitai / Bouei Mondai ni Kansuru Yoron Chousa [Public opinion poll on the SDF and defense issues]*. (Years 1997, 2000, 2003, 2006, 2009, 2012).
[16] For this paper, I use the definition of "soft power" as argued by Joseph Nye: "[T]he ability to affect others through the co-optive means of framing the agenda, persuading, and eliciting positive attraction in order to obtain preferred outcomes." Joseph Nye. *The Future of Power*. New York: PublicAffairs, 2011: 21.

relief efforts of the US, the percentage jumped up to 38 percent.[17] A similar pattern was observed in Pakistan before and after the 2005 earthquake as well.[18] Although we must be careful to note that the disaster relief efforts did not result in a permanent change of US image in both Indonesia and Pakistan, the assessment that these HA/DR activities increased the soft power of the United States is relatively uncontroversial.[19]

There are numerous other similar cases of HA/DR activities increasing the soft power of states, such as Cuba's "medical diplomacy" or mutual rescue dispatch between Turkey and Greece.[20] Although one may criticize such attempts to mix humanitarian aid, which should be done on its own merits, with power politics, I would argue that as long as the state is using its military, which is funded by the government budget, then the use of such government budget should be accompanied by a goal of pursuing state interests. The use of SDF in HA/DR activities in order to increase Japan's national soft power should not be criticized.

(4) Enhancement of traditional security

Lastly, increasing HA/DR activities would enhance Japan's traditional security. Even though HA/DR itself is within the realm of nontraditional security, an operation would entail large-scale deployment of forces and cooperation with allied countries. As such, exercises aimed at HA/DR activities with allies such as the US would also function, albeit indirectly, as an important exercise for traditional security issues. Another merit of HA/DR exercise is that since the goal of the exercise is "nontraditional" in nature, it would be difficult for other suspecting countries to oppose the conduct of such exercises.

Looking into the near future, there is no need to limit HA/DR cooperation to the closest allied countries. Japan could leave the door open so that in the future, countries like South Korea, where strategic incentives to cooperate have been impeded by historical and territorial issues, may join in. Unlike the intelligence sharing agreement GSOMIA between Japan and South Korea, which was seen as a traditional security issue that raised controversy in South Korea and was tabled at the last minute, the bar for cooperation in nontraditional security issues such as HA/DR should be much lower. Furthermore, with the US shifting its policy from the hub-and-spokes system to one of minilateral cooperation, deepening the Japan-South Korea ties would mean that "the missing link" will be strengthened.[21] Closer ties with "quasi-alliance" countries would,

[17] Richard Wike. "Does Humanitarian Aid Improve America's Image?" Pew Research Center, March 6, 2012.
[18] Ibid.
[19] Richard L. Armitage and Joseph S. Nye. *CSIS Commission on Smart Power: A Smarter, More Secure America*. Center for Strategic & International Studies. Washington, D.C.: CSIS Press, 2007: 9.
[20] Yasushi Watanabe. *Bunka to Gaikou: Paburikku Dipuromasi- no jidai [Culture and foreign policy: the era of public diplomacy]*. (Tokyo: Cyuuko Shinsho, 2011): 92-100.
[21] Ryo Sahashi. "Ajia Taiheiyou Chiiki ni Okeru Anzen Hoshou A-kitekucha to Sansou Bunseki [Security architecture in the Asia Pacific region and three-tiered analysis]." In Ken Jimbo Ed. *Ajia Taiheiyou Chiiki ni Okeru Anzen Hoshou A-kitekucha: Chiiki Anzen Hoshou no Sansou Kouzou [Security architecture in the Asia Pacific region: Three-tiered structure in regional security]*. (Tokyo: Nihon Hyouronsha, 2011): 39.

once again, increase Japan's traditional security by increasing preparedness and everyday coordination.[22]

Conclusion

The change of power balance in East Asia is not simply a phenomenon that is occurring between the US and China. Japan's continued falling birth rate and the aging population will likely prove to be an incremental, yet fundamental change that will contribute to the relative decline of Japan's power in the region in the coming years. In light of these shifting domestic and international dynamics, increasing its presence in HA/DR activities is perhaps one of the few, if not the only, diplomatic initiatives in the area of international security that the Japanese government can realistically pursue. In order for Japan to do so, the US is the natural partner to proceed with this agenda. By building a framework for cooperation with the US, with an eye towards including other regional actors in the future, Japan would be able to play a greater role in the area of international security.

[22] On the concept of "quasi-alliance," *see*: Victor D. Cha. *Alignment Despite Antagonism: The US-Korea-Japan Security Triangle*. California: Stanford, 1999: 36-58.

Abe's Push for Collective Self-Defense

By Ayako Mie

In the last several months, the security situation surrounding Japan and East Asia has been intensifying. China's increasing assertiveness in the near waters and worsening brinkmanship politics by North Korea are forcing Japan to rethink the self-defense posture it has had since World War II.

Prime Minister Shinzo Abe's Liberal Democratic Party (LDP) ousted the Democratic Party of Japan from power with a sweeping victory in the Lower House elections. The victorious campaign platform included a plan to amend Japan's pacifist Constitution – to allow Japan to exercise the right of collective self-defense – in an agenda which many neighboring countries, such as South Korea or China, saw as Japan's shift to military resurgence.

Abe hopes to engage in the unfinished business of his grandfather, former Prime Minister Nobusuke Kishi, who revised the Japan-US security treaty in 1960 to strengthen Japan's military commitment to the US. With the intensifying security situation surrounding Japan, Abe sees it as a necessity to increase Japan's engagement in regional security in cooperation with the US.

In his first four months in office, Abe was successful in regaining public trust in Japan. His approval rates hovered around 60 percent. But rather than implementing his conservative campaign pledges, Abe has been engaged in Abe-nomics, focusing on steering Japan out of a decade-long economic slump and deflation instead of taking hawkish actions. This has given some relief to the companies and diplomats who have witnessed growing anti-Japanese sentiment in China, ever since Tokyo announced it will purchase the Senkaku Islands, also known as Diaoyu Islands, in China last year.

Abe has indeed been making efforts to mend bilateral relationships with South Korea and China, which have been deeply frayed due to territorial disputes, by sending special envoys to China and South Korea upon taking office.

Abe did not hold a national ceremony on Takeshima Day as he promised during the campaign, but instead sent parliamentary secretary Aiko Shinajiri along with 19 lawmakers to the Shimane Prefecture-sponsored ceremony, rubbing South Korea the wrong way.

Yet less than three months before the Upper House election, which will be the real litmus test of the ruling LDP and New Komeito's staying power, several signs are emerging that Abe is slowly pushing his rightwing agenda in the upcoming election.

The LDP officials have been saying that constitutional revision will be one of the campaign platforms for the House of Councilor poll in the summer. They aim to revise Article 96 to reduce the legislative requirement from two-thirds votes to half of the members of both chambers before the national referendum.

On April 13, LDP Secretary General Shigeru Ishiba underscored that the issue of Article 96 would be a pathway for revising the war-renouncing Article 9 to forge a truly bilateral Japan-US alliance.

Still, the constitutional revision sets a much higher hurdle as the LDP must engage in a delicate balancing act with its key ally, the New Komeito, who is backed by a Buddhist group opposed to changing Japan's pacifist Constitution. Furthermore, experts and LDP lawmakers agree that it is very unclear if the Japanese public would support the constitutional revision, a goal the LDP has not been able to achieve since its inception in 1955.

Rather than engaging in the strenuous process to amend Article 9, Abe sees allowing Japan to exercise collective self-defense as a shortcut to strengthen the US-Japan alliance, given the intensifying regional security and the relentless threat from North Korea.

Under the United Nations Charter, member countries are allowed, in collective self-defense, to strike an enemy state that is attacking an ally.

But throughout the postwar period, the Japanese government has maintained that the pacifist Constitution prohibits Japan from using this right. This interpretation has long been recognized as the key obstacle preventing Japan from getting deeper into joint military operation with the United States, and any change in the interpretation would be a significant departure from Japan's postwar military posture.

Seeking a way to implement his plans, Abe has already reconvened a study group on Japan's ability to exercise collective self-defense, an agenda Abe regrettably gave up during his first stint as Prime Minister. According to the study group, Japan can exercise collective self-defense in four limited cases.

Japan should be allowed to shoot down a ballistic missile flying over Japan, possibly towards the United States, to defend US military ships on the high seas that are engaged in joint operations with the Maritime Self-Defense Force (MSDF), to defend allied troops in UN-led peacekeeping operations, and to provide logistic support for US-led troops using military force.

In the latest government study meeting last February, Shunji Yanai, the chair of the study group and former Japanese Ambassador to the US, said that the government will have to include how they can collectively defend each other against nontraditional threats such as cyber terrorism.

The discussion of collective self-defense should be linked with the Japanese version of the National Security Council, the item Abe also had mapped out during his first stint as Prime Minister. Such a mechanism would be necessary for the government to take actions in a timely manner in case of contingencies, especially at a time when China is building up its military muscles and North Korea continues to pursue its nuclear

ambitions.

Yet the Japanese government is notorious for its sectionalism, or *tatewari soshiki*, which prevents smooth communication lines and information flows, and in a timely manner.

For example, the Defense Ministry did not share information until they were done with their analysis, when a Chinese frigate put a radar lock on a Japanese navy ship in January. It took six days before the report was delivered to Abe. The information was not shared with the Ministry of Foreign Affairs (MOFA), delaying MOFA's action to lodge a protest with China at high levels.

It will be seen if Abe can, in fact, rectify this sectionalism, or if he will end up just making another ministry to add to an already crowded information flow.

That being said, if Japan can actually exercise collective self-defense, it could potentially overcome the legal limitation of Japan Self-Defense Forces' (JSDF's) engagement in peace-keeping operations, as well as make the Japan-US alliance more bilateral in nature. But it would also surely face staunch opposition from China and South Korea.

Japan has frequently been asked to contribute so-called boots on the ground, such as in the Iraq War, where Japan had to define a non-combatting zone in Iraq even though there was no such thing. As a result, Japan had to have the Dutch protect them. But if Japan can exercise collective self-defense, it would make Japan's peace-keeping operations much more pragmatic and timely.

The sense of being truly bilateral partners is especially important with the rise of China and exacerbating provocations from North Korea, which has been blackmailing the international community by brandishing its missile capability, which could potentially reach the West coast of the United States.

The Japanese are also worried if contingencies in Senkaku would be covered by the security alliance. Former Secretary of State Hillary Clinton has reassured the Japanese counterpart, but the Japanese realize that the US will commit itself seriously only when Japan does its own part and takes some risks.

While some argue that Japan's taking more responsibility would reduce US military presence in Japan, questions remain if Japan's exercising collective self-defense would reduce American footprints in the region.

Collective self-defense does not really affect American military presence, as it is more about requiring Japan to fulfill its own share of defending the nation. One recent development is that the Abe administration aims to station Ground Self-Defense Forces (GSDF) in the Yonaguni islands by 2015 to counter China's increasing assertiveness in the near waters, but the plan is facing a much higher hurdle as the negotiation between

the Defense Ministry and Yonaguni town clashed when the island town demanded 1 billion yen for the deal.

The US can also support the Japanese push for collective self-defense by enhancing their interoperability and holding joint exercises, and by helping Japan build more amphibious capability.

Such an exercise was held in February in California, after canceling one in the Japanese waters last year to avoid provoking the Chinese. These joint exercises will give clearer visions of what it means to bilaterally defend each other, and how Japan can potentially benefit from it.

Yet, the Japanese public is still wary about what benefits it would receive. In my interview with Yohei Kono, a former LDP president who has fought prominently against Japan's constitutional revision and reinterpretation, he said looking back at the Iraq War, that some Japanese don't want to be pulled into some wrong wars just for the sake of being allies.

Currently, only the conservative *Sankei Shimbun* shows that over 50 percent of Japan wants Japan to exercise the right. Other polls show much lower figures.

Getting public support for the constitutional revision of the collective self-defense article is extremely important for the LDP, as the ruling party has to win the majority of seats in the Upper House in July. It is only when the LDP seizes majorities in both the Upper House and Lower House that Abe can start pushing other hawkish agendas on the table.

That also means the LDP has to play their cards wisely. LDP's junior coalition partner, the New Komeito, which has solid voting machines, has been urging the LDP to act cautiously on this matter.

LDP Secretary General Shigeru Ishiba has said that the LDP could partially partner with the Nippon Ishin no Kai, which chimes with the LDP on many issues such as constitutional revision or exercising collective self-defense.

Yet the LDP is not ready to let go of the New Komeito, as Ishin no Kai proved to be less powerful than expected before the House of Representatives poll in last December. Or it does not want to look too aggressive, even if it would sweep the election, as the LDP lawmakers agree that it has become very cautious in dealing with public sentiment since the 2009 election that ousted the LDP from power.

Whether or not Japan can push for collective self-defense does not rest on the LDP's victory, but how Abe will implement the issue while engaging in a delicate political balancing act.

Future of the Japan-US Alliance: Reconfiguring the Japan Self-Defense Force To the Changing Regional Environment

By Ryo Hinata-Yamaguchi

Introduction

Since the San Francisco Peace Treaty went into effect on April 28, 1952, the alliance between Japan and the United States is epitomized by strong mutual commitment and strength. Despite the ups-and-downs due to domestic political affairs, the alliance remains well intact and will continue to ensure stability in the Asia-Pacific. However, fluid circumstances in the region and Japan's issues with its East-Asian neighbors will require the alliance to innovatively reconfigure itself for the future.

Strengthening the Japan-US alliance is vital to peace and stability in the region. While the US will maintain its lead in military capabilities, political-economic challenges set boundaries for over-ambitious developments. Such circumstances demand more burden-sharing within the alliance, and it is essential for Japan to take on greater burdens and initiatives. The pivotal element would be improving the capabilities of the Japan Self-Defense Force (JSDF), and assuming a greater role in the defense arrangement between Tokyo and Washington.

New Challenges

The real power of the long-standing alliance between Japan and the US is epitomized by the way Japan has been free from invasion or major armed attack in the post-World War II era. However, new challenges and issues are emerging. On the one hand, the fluid nature of the East-Asia region is revealing the rise of new security threats, leading to requirements for strategic and operational alignments. On the other hand, the series of political-economic issues in both Japan and the US, coupled with problems in Tokyo's existing defense planning framework, raise concerns over the credibility and effectiveness of the alliance's current capabilities.

For decades, the JSDF and the Japan-US alliance have been fixated on two paradigms – *threat-based* and *scenario-based* planning. Regarding the *threat-based* planning, the JSDF has focused on threats posed by China, North Korea, and the former Soviet Union. As for *scenario-based* planning, Japan's strategic focus has been on amphibious invasions and ballistic missile attacks. While the dual-scope defense planning framework may seem plausible, too much focus on scenarios is counterproductive as it undermines flexibility and increases rigidity in mobilization capabilities. Given the proximity and urgency of the threats Japan faces, the JSDF needs to remain flexible and not over-specialized in particular missions. Rather, top priority must be maximizing efficiency and effectiveness in minimal response time. The Japanese government must place more emphasis on a *capability-based* approach to ensure that the JSDF is well-versed in carrying out its operations.

Under its current state, the JSDF's operations to deal with external threats will be far from smooth and will depend largely on the size and type of contingency it faces. Regarding incidents in the East China Sea, the JSDF has the capacity to deal with small-scale attacks or incidents. However, any response that requires large-scale firepower or power projection will require assistance from the US.

Improving the JSDF's capabilities is a logical step to strengthen the alliance, but the task is easier said than done. Over the decades, the JSDF was developed in strict conformity with Article 9 of the Japanese constitution and also on the premise that it is shielded by the United States Forces Japan (USFJ). It was not until the early 1980s that bilateral exercises and training was expanded to all three branches of the JSDF.[1] Issues concerning interoperability and the developing state of Japan's defense readiness remain the main obstacles for further development of the alliance's capabilities. Hence, strengthening the Japan-US alliance is not purely dependent on greater coordination between the two states, but also on how much the JSDF can sharpen its defense readiness capabilities.

Sharpening the JSDF's Defense Readiness

Enhancing the JSDF's defense posture requires adjustments to both the hardware and software of the current system. Yet given Japan's current political-economic constraints, improvements will have to take place in the most efficient manner, aiming for maximum cost-effectiveness. In January 2013, Prime Minister Shinzo Abe's task force requested to increase Japan's defense budget by 100 billion yen. While increase in defense outlays will have a positive impact on the JSDF, it is certainly not enough to ambitiously invest in new capabilities. Thus for Japan, the priority would be to refine existing capabilities while making modest acquisitions for platforms that are urgent for possible scenarios and strengthening the bureaucratic framework for mobilization readiness.

Force-Structure Adjustments

Pundits for modernizing the JSDF's force structure often come up with an extensive wish-list of hardware, ranging from indigenous next generation fighter jets to aircraft carriers. While plausible to some extent, force-structure improvements involve a myriad of caveats. In particular, procurement of heavy-duty platforms would need care. For example, an overstock of Main Battle Tanks ignores Japan's defense priorities for maneuverable capabilities in the domestic terrain. Poorly planned hardware acquisitions have intense fiscal implications and also undermine the overall force posture.

[1] The Japan Maritime Self-Defense Force commenced naval exercises with the USN in the mid-1950s, and the Japan Air Self-Defense Force began fighter combat training in 1978. Command post/field training exercises between the Japan Ground Self-Defense Force and the USFJ did not start until 1981. Japan Ministry of Defense, "Defense of Japan 2012," ed. Japan Ministry of Defense (Tokyo 2012). p.235.

Force-structure changes should be limited to those that advance mobilization and readiness. Focus must be on enhancing the capabilities for faster response and mobility. With a growing emphasis on developing capabilities for amphibious operations, platforms for transportation of expeditionary forces and goods are vital. Development of the C-X transport aircraft by Kawasaki Heavy Industries, Landing Ships and Assault Amphibious Vehicles are encouraging signs. Looking into the future, the acquisition of hardware such as Armored Fighting Vehicles and V-22 *Ospreys* would certainly further benefit operations that require prompt transportation troops to theatres.

One major inevitable challenge is the procurement of next generation fighters. The delayed availability of the F-35A and question marks over the progress of the Mitsubishi Heavy Industries' ATD-X project is slowing the short-medium term development of the Japan Air Self-Defense Force (JASDF). Although the acquisition of stealth capabilities in the JASDF would be pivotal for dealing with regional threats, the cost and the technological hurdles are creating obstacles for Japan's development of aerial capabilities.[2]

While enhancing the JASDF's combat capabilities is important, Japan's Airborne Early Warning & Control and Maritime Patrol capabilities are essential. Currently, the JASDF possesses four KC-767J and 13 E-2C aircrafts, while the Japan Maritime Self-Defense Forces (JMSDF) has 92 P-3Cs which will be eventually replaced by the XP-1.[3] The inventory is sufficient, at least for the time being. However, the issue is whether the roll out and operational transition to the XP-1 will be smooth, given budgetary and technical issues.

Another air platform that requires consideration is the aerial refueling aircraft. The JASDF currently only has four E-767s that are equipped with a flying boom system, which is perhaps insufficient for the number of tactical aircraft in the JSDF and the USFJ.[4] Aerial refueling will significantly increase the efficiency of Combat Air Patrol operations by reducing the number of sorties. However, yet again, budgetary factors obstruct prospects in increasing these platforms.

The maritime component of the JSDF already has a powerful, modernized inventory with blue-water capabilities and missile defense. Two key procurements are already in progress – the Akizuki-class destroyer (5,000t), Osumi-class amphibious transport docks (8,900t) and the 19,000t class destroyers that are able of carrying helicopters and aircraft with vertical takeoff and landing (VTOL) capabilities. The acquisition of these platforms will further compliment Japan's capabilities to defend its maritime territory. However, questions remain whether the JMSDF can acquire Amphibious Assault Ships that resemble the *USS Bonhomme Richard* (or at least a larger

[2] Ryo Hinata-Yamaguchi and Eddie Walsh, "Japan Tackles Perils To Building, Selling Its Own Next-Gen Fighter," *Aol Defense* (May 3, 2012), http://defense.aol.com/2012/05/03/japan-tackles-perils-to-building-selling-its-own-next-gen-fight/.
[3] International Institute for Strategic Studies, *The Military Balance 2012*, vol. 111 (London, UK: International Institute for Strategic Studies, 2012).
[4] Ibid.

version of the Osumi-class amphibious transport docks). While there are budgetary constraints, these platforms would be essential for both territorial defense and deterrence.

Fine-tuning the Operational Capabilities

The greatest challenge is in promoting the level of mobilization readiness and strengthening the "software" aspects of the JSDF. Despite the challenges in modernizing the force structure of the JSDF, the Japanese government must review and improve how these platforms and units are mobilized with greater efficiency and effectiveness. To date, the JSDF's effectiveness in deploying forces for HA/DR operations is increasing. However, the JSDF's capabilities for actual combat operations remain untested, raising concerns for how Japan will handle itself in times of emergency.

First, while concentration on amphibious capabilities aimed at the defense of the Southwestern Islands is essential, too much focus on these missions and scenarios could create an uneven balance within the JSDF. Currently, the level of training is sporadic among the various infantry regiments, causing cleavages in combat preparedness. Within the JSDF, the most proficient capabilities are limited to the Special Forces Group, 1st Airborne Brigade, Western Army Infantry Regiment, Central Readiness Regiment, Cold Weather Combat Training Unit, Tsushima Area Security Force, Special Boarding Unit – JMSDF, Base Defense Development & Training Squadron – and JASDF. While special operations should maintain their unique characteristics, the overall quantity of elite combat-ready regiments should be increased. Moreover, these units focus on light-infantry, requiring some equal amount of readiness in heavy-duty platforms.

The JSDF must maintain optimal combat effectiveness to minimize negative disruptions to its force posture. To streamline the JSDF's capabilities, combat/scenario-based operations must be implemented across entire forces. Measures could include increasing the number of Ranger-qualified troops, establishing permanent Ranger-based infantry regiments in each of the five Armies,[5] and better integration between the active and reserve components to promote the overall capabilities of the JSDF.

Second, personnel issues must also be addressed. Currently, there are chronic readiness deficits within the reserve component of the JSDF, particularly in the Japan Ground Self-Defense Forces (JGSDF) where the quality and quantity of training is insufficient. While the Ready Reserve units conduct a minimum of 30 days per year, Regular Reserve units are limited to five days of basic training. Furthermore, enlistment/commission into the Ready Reserve units is exclusive to former active personnel, which creates barriers to enhancing the readiness levels of specialists serving in the Regular Reserve units.

For any defense force, the capabilities of the reserve components are essential, especially in times of emergency. The Japanese government should review the current recruitment/personnel policies to create avenues for smoother transfers between the

[5] The JGSDF currently has six regular components: Central Readiness Force, Northern Army, Northeastern Army, Eastern Army, Middle Army, and the Western Army.

reserve and active components, and perhaps even increase the ratio of reserve-active personnel. By doing so, this would establish better consistency and integration in personnel capabilities and allow greater utilization of the specialist skills possessed by reservist personnel. Moreover, greater utility of the reserve component will ease the pressure on the defense budget whilst addressing some of the recruitment issues amid an aging population.

Setting Japan's Defense Planning Priorities

The long list of platforms and agendas provoke questions over Japan's defense planning priorities. Given the limits in Japan's defense spending, there are apt to be zero-sum dilemmas between enhancing the force structure and operational readiness of the JSDF. Therefore, setting the priorities will be the biggest task. Regarding hardware, various plans and statements released by the Ministry of Defense (MOD) indicate that investments will take place: or adjusted into phases that fit with Japan's defense budget plans. Despite the Abe government's pledge to increase the defense budget, they will be insufficient to cover the investment and consumption expenditures unless deductions in other areas (such as personnel) or extensive export of platforms take place.

If budgetary issues constrain any large-scale investments, then it would make sense for the Japanese government to focus on sharpening the capabilities already in place. While hardware aspects are important, the force structure of the JSDF has many comparative advantages in the region. However, the urgent need for improvement in the operational framework of Japan's defense system strongly suggests that these factors will need to be prioritized for improvement. Indeed, such measures will be met with fiscal, legal, and political challenges. Nevertheless, successful implementations and improvements will significantly enhance Japan's defense capabilities.

Prospects for the Japan-US Alliance

The future of the Japan-US alliance presents numerous prospects that will contribute to the East Asia region. However, until Japan confirms the political position on collective self-defense, the JSDF's capability will continue to focus on sharpening its mobility and response within its immediate periphery, therefore relying heavily on the USFJ's capabilities. Further development of the alliance should therefore focus on perfecting effective and efficient operations.

First, the JSDF and USFJ will need to increase and tighten communication and coordination. The relocation of key JSDF commands such as the JASDF and the Central Readiness Force (CRF) to US bases was a significant step in this direction. However, gaps still exist, and improving the operational relations between the JSDF and USFJ will be essential. One feasible option would be to train and dispatch augmentation staff to the USFJ to smooth operational communication and coordination. At the same time, improving English language education within the JSDF will be beneficial at the tactical level. Achieving closer communication will not only improve the bond between the JSDF and USFJ, but will also have a positive impact in operations overseas.

At the same time, it is imperative for Japan and the US to perfect their interoperability in intelligence, surveillance, and reconnaissance (ISR). In this regard, Tokyo must adequately improve the legal and political structure of its intelligence and cyber security system to match the standards of the US system.[6] Enhancing the joint ISR capabilities between Japan and the US will significantly expand the alliance's ability to detect, assess, and respond to regional uncertainties.

Second, Japan and the US must promote both the frequency and quality of both command and field exercises. The variety of bilateral and multilateral exercises involving Japan and the US increased rapidly since the 1980s.[7] Looking into the future, the JSDF will need to further learn and coordinate common combat practices and tactics with the USFJ to develop Japan's defense capabilities. Bilateral field exercises on a small scale should be held on a more regular basis to promote readiness against various scenarios. In particular, the JGSDF should increase the number of exercises and joint training regimes with the US Army and the Marine Corp (USMC) to nurture a hybrid capability that incorporates both amphibious and continental elements.

Third, both Japan and the US will need to identify and deal with the convergence and divergence in expectations. In other words, compare and assess the differences in the capabilities Japan wants with those that the US wants Japan to have. One approach would be to compare the contents of the 2+2 dialogues with the respective defense white papers. Bridging key gaps will significantly assist Japan with setting priorities in its defense planning by cancelling out the ambitions for overlapping areas while enhancing its niche capabilities. Such refinement in the alliance's defense capability will then pave the way for greater integration and cohesion between the JSDF and its US counterparts, bolstering the capabilities and credibility of the alliance.

While the JSDF should maintain an exclusively defense-oriented policy, there is no reason why the readiness management regime cannot be reviewed. Greater readiness of the JSDF would serve as an asset for the Japan-US alliance, to advance the two countries' national and regional interests. Operation Tomodachi epitomized not only the close relationship between Japan and the US, but also the alliance's potential to expand its capacity. Further advancing this capacity by improving the JSDF's readiness and coordination with the USFJ would be essential in dealing with future security uncertainties in East Asia and beyond.

[6] Richard L. Armitage and Joseph S. Nye, "The US-Japan Alliance: Anchoring Stability in Asia," (Washington, D.C.2012). p.12.
[7] Japan Ministry of Defense, "Defense of Japan 2012."

APPENDIX A

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Mr. Justin GOLDMAN is a Visiting Scholar in the International Studies Department at De La Salle University in Manila. He was a 2011-2012 Resident SPF Fellow at Pacific Forum CSIS where he remains affiliated as a Non-resident Fellow. He entered the S. Rajaratnam School of International Studies (RSIS) in Singapore in July 2009 and earned his MSc in Strategic Studies in July 2010. As an Associate Research Fellow in Military Studies at RSIS he was involved with instruction for the Singapore Armed Forces up to the Command and Staff College level. He joined the US Marine Corps in June 1998 and participated in two Western Pacific naval deployments, training in countries ranging from Singapore to the United Arab Emirates. He contributed to humanitarian assistance in East Timor before operating in Afghanistan and Pakistan with the 15th Marine Expeditionary Unit during 2001-2002. As a Civilian Analyst for the Department of the Navy he has worked on the US-Royal Australian Navy joint heavyweight torpedo program and deployed to West Africa in the spring of 2008 with Africa Partnership Station, a regional maritime security cooperation engagement onboard USS Fort McHenry. He has published articles for Defense News, the Pacific Forum CSIS PacNet series, and the RSIS Commentary.

Mr. John HEMMINGS is a doctoral candidate at the London School of Economics, where he is working on a thesis on US-Japan trilateral cooperation. Prior to this, he was a Resident WSD-Handa Fellow at Pacific Forum CSIS where he worked on issues pertaining to US security and foreign policy in Asia. He also holds a Non-resident SPF Fellowship at Pacific Forum CSIS. Between 2007 and 2011, John worked as a research analyst at the Royal United Services Institute (RUSI) in London, where his research activities focused on East Asian security, North Korea, US alliances, the rise of China, as well as transatlantic security issues. While at RUSI, John also researched stabilization and complex operations, and in 2011, he carried out an assessment of South Korea's Provincial Reconstruction Team stabilization activities in Parwan Province, Afghanistan for the Asia Foundation. John holds an MA in International Peace and Security from King's College, London and a BA in Philosophy and the History of Ideas from Cardiff University. Prior to his graduate work, John lived in Japan for six years. John has

contributed political analysis to CNN, the Observer, the BBC, Monocle, the Asia Times Online, and the East Asia Forum.

Dr. Ryo HINATA-YAMAGUCHI is a Non-resident SPF Fellow and concurrently a Resident Vasey Fellow at Pacific Forum CSIS. Ryo is also a Sergeant First Class in the Japan Ground Self-Defense Force Reserve Component and a Security Analyst affiliated with the FM Bird Entertainment Agency Scholar Project in Tokyo. Ryo received his PhD from the University of New South Wales – Canberra (Australian Defense Force Academy), where he wrote his dissertation focused on North Korea's military capability management. Ryo received an MA in Strategic and Defense Studies and BA in Security Analysis from the Australian National University. Ryo has presented and published a variety of papers on defense planning, military balance in Asia-Pacific, and Korean affairs. He has extensive international experience, having lived over 20 years in Australia, Korea, Malaysia, Singapore, and the US. Ryo is a native speaker of Japanese and English, is fluent in Korean, and also has some knowledge of Chinese and Malay.

Mr. Akira IGATA is a Non-resident SPF Fellow and a doctoral student at the Department of Law, Keio University. He received his BA at Georgetown University completing a one-year exchange program as a Heiwa Nakajima Foundation scholar and International Christian University as a Chris-Wada scholar. He has subsequently received his MA in political science focused on international relations from Columbia University as a Japanese government Fellowship Scholar. He was a recipient of the Security Studies Fellowship from the Research Institute for Peace and Security during 2010-2012. He was recently involved in drafting the report by the Independent Investigation Commission on the Fukushima Daiichi Nuclear Accident. His research interests include international relations theories, international politics of East Asia, and issues pertaining to nuclear weapons and security.

Mr. Yusuke ISHIHARA is a non-resident SPF Fellow and a Research Fellow in the Policy Research Department at the National Institute for Defense Studies (NIDS) in Tokyo. His research area includes Japan-Australia relations and the Japan-US alliance.

Mr. Vincent MANZO is a Fellow in the Defense and National Security Group of the CSIS International Security Program. His research portfolio includes US defense strategy, nuclear weapons, missile defense, space, and cyber policy, with a focus on exploring deterrence, employment strategies, and escalation control in the emerging strategic environment. He joined CSIS after working as a research analyst at the National Defense University's Institute for National Strategic Studies for three years. He is also a non-resident Sasakawa Peace Foundation Fellow at the Pacific Forum CSIS. His publications include "Stuxnet and the Dangers of Cyberwar," The National Interest, Jan. 29, 2013; "Deterrence and Escalation in Cross-domain Operations: Where Do Space and Cyber Fit?" Joint Forces Quarterly (July 2012); Conventional Prompt Global Strike: Strategic Asset or Unusable Liability? INSS Strategic Forum 263 (National Defense University Press, February 2011); and "The Threat that Leaves Something to Chance in US-China Relations," Nuclear Scholars Initiative: A Collection of Papers from the 2011 Nuclear Scholars Initiative (CSIS, 2011). He holds an MA in international relations from

the School of Advanced International Studies at Johns Hopkins University and a BA from Kenyon College.

Ms. Mihoko MATSUBARA was a Resident SPF Fellow at the Pacific Forum CSIS during 2011-2012. Previously she served the Japanese Ministry of Defense from 2001 to 2009. Her work earned her three letters of appreciation and 11 commendation coins from the US government and military, and one commendation from the Ministry. Miho discussed cybersecurity issues at security symposiums in six different Japanese cities at the invitation of the US Embassy in Tokyo, and was interviewed by a Hawai-based local radio show twice. She also gave a lecture on cybersecurity and international cooperation to 60 Japanese senior journalists at the Japan National Press Club. Her articles have appeared in Asahi Shimbun, Council on Foreign Relations' Asia Unbound, The Diplomat, Foreign Policy Digest, ISN, Kyodo, Japan Times, Harvard Asia Quarterly, PacNet, and the Stanford Journal of East Asian Affairs. She earned her MA in International Relations and Economics from the John Hopkins School of Advanced International Studies on Fulbright.

Mr. Jonathan MILLER is an international affairs professional focused on security, defense, and intelligence issues in the Asia-Pacific region. He has held a variety of positions in the private and public sector, most recently as a senior policy officer on Asia-Pacific at the Canada Border Services Agency. Jonathan is a regular contributor to several journals, magazines, and newspapers on Asia-Pacific security issues and is currently a columnist on security issues for Forbes. He has published in other outlets including Foreign Affairs, the Economist, Global Asia, Jane's Intelligence Review, the Non-Proliferation Review, CNN World, and Newsweek Japan. Jonathan has an MA in international affairs from the Norman Paterson School of International Affairs at Carleton University in Ottawa. He also has a BA (Hons.) from Mount Allison University.

Dr. Masamichi MINEHATA is a Research Fellow at the University of Bradford, UK sponsored by the UK Bioengagement Programme of the Defense Science and Technology Laboratories UK Ministry of Defense. He recently completed his Resident SPF Fellowship at the Pacific Forum CSIS. He holds a PhD and MA from the Department of Peace Studies of the University of Bradford on the issues of Biological Weapons Convention. Previously he worked for the UK Prime Minister's Initiative on International Education to promote biosecurity education in cooperation with the National Defense Medical College in Japan and Landau Network Centro Volta in Italy (awarded by the British Council, UK). He has been widely published both in English and Japanese.

Ms. Aiko SHIMIZU is a student at the University of Pennsylvania Law School, where she is an Associate Editor of the East Asia Law Review. She received her BA in Political Science and International Studies from The University of Chicago, where she was the Undergraduate Fellow for the Program on International Security Policy, and a Master of International Affairs from Columbia University's School of International and Public Affairs. Ms. Shimizu's professional experiences include working at the United Nations, Permanent Mission of Japan to the United Nations, and the International Tribunal for the

Law of the Sea. She is a recipient of the Women's International Leadership Program Scholarship and her works have been published in the Journal of International Affairs and the Atlantic Community.

Dr. Victoria TUKE received her PhD in 2012 from Warwick University (UK) analyzing Japan's foreign policy towards India and holds a BA in History and MA in International Relations (Warwick). She has conducted fieldwork as a Visiting Researcher at Waseda University, Visiting Fellow at the Institute for Defense Studies and Analyses in New Delhi as well as London and Washington DC. In London she has worked in Parliament and for the diplomatic advisory group, Independent Diplomat. Upon completion of her PhD she was awarded Daiwa Scholarship. Following 12 months Japanese language study she lived in Okinawa before working for Akihisa Nagashima, Member of the House of Representatives and former Deputy Defense Minister during the national election in late 2012.

APPENDIX B

PACIFIC FORUM CSIS

PACIFIC FORUM CSIS
SASAKAWA PEACE FOUNDATION
FELLOWSHIP PROGRAM CONFERENCE
***M*arch 13-15, 2013**
J.W. Marriott Hotel ◆San Francisco, CA

Agenda

Wednesday, March 13, 2013

6:30PM **US-Japan Shin-Ei 新鋭 Dinner**

Thursday March 14, 2013

9:00AM **Welcome remarks**
By Ralph Cossa, President, Pacific Forum CSIS and
Junko Chano, President, Sasakawa Peace Foundation USA

9:15AM **Session I: Networking the US-Japan Alliance**

- Yusuke Ishihara – A New Phase of Japan-Australia Security Relations
- John Hemmings – Beyond the Pacific: a Proposal for US-Japan-UK Trilateral Cooperation
- Jonathan Miller – Moving Past the Kurils: US Should Push for Détente in Japan-Russia relations

10:45AM Break

11:00AM **Session II: Leveraging the US-Japan Alliance in Multilateral Settings**

- Linnea Duvall – Enhancing Japan's Leadership Role in Regional Multilateral Exercises
- Kei Koga – The Soft Power of US-Japan Alliance: Creating the Core of Regional HA/DR Cooperation in East Asia
- Justin Goldman – Benefits of US-Japan Amphibious Operations to Regional Cooperation

Thursday March 14, 2013 (cont.)

2:00PM **Session III: Alliance Cooperation on Non-Traditional Security Threats**

- Mihoko Matsubara – A Long and Winding Road for Cybersecurity Cooperation between Japan and the United States
- Masamichi Minehata – Getting the Biosecurity Architecture Right in the Asia Pacific
- Aiko Shimizu – Energy Security and US-Japan Cooperation: The Case of Methane Hydrate Exploration

3:30PM Break

3:45PM **Session IV: The Impact of March 11th – Lessons for the Alliance**

- Leif-Eric Easley – US-Japan Relations After 3/11: A New Sense of Purpose
- Akira Igata – Japan-US Cooperation in HA/DR: A Japanese Perspective

5:00PM Session adjourns

Friday, March 15, 2013

9:00AM **Session V: Future of the US-Japan Alliance: What's Over the Horizon?**

- Jenny Lin – The Future of US-Japan Alliance: Moving Forward with an Innovative Futenma Replacement Facility
- Ayako Mie – Abe's Push for Collective Self-Defense
- Ryo Hinata-Yamaguchi – Future of the Japan-US Alliance: Reconfiguring Defense Capabilities to the Changing Regional Environment

10:45AM Break

11:00AM **Session VI: Wrap Up - Recommendations for US-Japan Policy Makers**

- Adam Liff – Outcomes from the US-Japan Strategic Dialogue

1:00PM **Farewell Lunch**

APPENDIX C

PACIFIC FORUM CSIS
SASAKAWA PEACE FOUNDATION
FELLOWSHIP PROGRAM CONFERENCE
***M*arch 13-15, 2013**
J.W. Marriott Hotel ◆San Francisco, CA

Participants

Japan Senior Leaders:

1. **Ms. Junko CHANO**
   Executive Director
   Sasakawa Peace Foundation

2. **Mr. Yoichi KATO**
   National Security Correspondent
   Asahi-Shimbun

3. **Ms. Aya MURATA**
   Associate Program Officer
   Japan-US Exchange Program

4. **Dr. Akio TAKAHARA**
   Professor, University of Tokyo
   Adjunct Fellow, JIIA

US Senior Leaders:

5. **Mr. Ralph A. COSSA**
   President
   Pacific Forum CSIS

6. **Ms. Paige COTTINGHAM–STREATER**
   Executive Director
   Japan-US Friendship Commission

7. **Mr. Brad GLOSSERMAN**
   Executive Director
   Pacific Forum CSIS

8. **Mr. James A. KELLY**
   Counselor and President Emeritus
   Pacific Forum CSIS

9. **Mr. Torkel PATTERSON**
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Japan SPF Fellows

10. **Dr. Ryo HINATA-YAMAGUCHI**
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    Pacific Forum CSIS

11. **Mr. Akira IGATA**
    Doctoral Student
    Keio University

12. **Mr. Yusuke ISHIHARA**
    Non-Resident SPF Fellow
    Pacific Forum CSIS

13. **Dr. Kei KOGA**
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The Belfer Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University

14. **Ms. Mihoko MATSUBARA**
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Pacific Forum CSIS

15. **Ms. Ayako MIE**
Multimedia Journalist
The Japan Times

16. **Dr. Masamichi MINEHATA**
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University of Bradford, UK

17. **Ms. Aiko SHIMIZU**
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University of Pennsylvania Law School

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22. **Mr. Adam LIFF**
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30. **Ms. Brooke MIZUNO**
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