



**The US-Japan Alliance in Transformation:  
The Management of the US Marine Corps  
Futenma Airfield Relocation Facility (FRF)**

**by Jenny Lin**

**Issues & Insights  
Vol. 15-No. 3**

Honolulu, Hawaii  
February 2015

## **Pacific Forum CSIS**

Based in Honolulu, the Pacific Forum CSIS ([www.pacforum.org](http://www.pacforum.org)) operates as the autonomous Asia-Pacific arm of the Center for Strategic and International Studies in Washington, DC. The Forum's programs encompass current and emerging political, security, economic, business, and oceans policy issues through analysis and dialogue undertaken with the region's leaders in the academic, government, and corporate areas. Founded in 1975, it collaborates with a broad network of research institutes from around the Pacific Rim, drawing on Asian perspectives and disseminating project findings and recommendations to opinion leaders, governments, and members of the public throughout the region.

# Table of Contents

Executive Summary .....	v
Introduction.....	1
US-Japan Alliance .....	5
US forces in Okinawa .....	12
Challenges in the Alliance: The US Marine Corps (USMC) Futenma Airfield and the Landfill/FRF .....	14
Addressing Futenma: The 1996 SACO Final Report and the US-Japan Roadmap for Realignment Implementation .....	18
Future Challenges: The Implications of Economic Development in Okinawa .....	23
Alternatives to Henoko .....	26
The Mega-Float Concept: Refreshing An Old Idea.....	29
Conclusion .....	49
Addendums .....	54
Table 1: Judicial Cases Involving US Forces in Okinawa (1940s-2013) .....	54
Table 2: Comparison of Crime Statistics in US Cities and in Okinawa .....	55
Table 3: Quick facts on Futenma: Mission, Land Mass, Facilities, and Costs .....	55
Table 4: Timeline on the Relocation of USMC Futenma Airfield (1995-2014).....	57
Table 5: Political Elements and Conditions in Okinawa.....	62
Table 6: Phase I (1995-1997) TRAM Research and Development .....	62
Table 7: Phase II (1998-2001) TRAM Research and Development .....	63
Table 8: Sample Runway Lengths and Aircraft Type.....	63
Table 9: Land Reclamation vs. the Mega-Float .....	64
Table 10: Quick Facts on the Henoko Plan.....	65
Table 11: Quick Facts on the Mega-Float Technology.....	66
Table 12: Cost Estimate for the Mega-Float/FRF.....	67
Table 13: Exchange between Prime Minister Abe and Okinawa Gov. Nakaima .....	68
Possible Collaborating Organizations on the Okinawa Energy Initiative.....	72

## **Acknowledgements**

The author would like to thank the Pacific Forum CSIS and the Sasakawa Peace Foundation for making this research possible. She would like to thank Brad Glosserman for his guidance and feedback, and Aya Murata for her support. She is grateful for all who participated in this research – from Tokyo to Okinawa to Hawaii – and greatly appreciates their hospitality and generosity. She is indebted to Asami Watanabe and Tomoe Yokoda-VonGruenigen for their translation work, and to James Wendelken for his expertise.

The findings and analysis are the responsibility of the author. Events and developments associated with the US-Japan alliance and the Futenma Relocation Facility after August 2014 are not included in this report.

## Executive Summary

This report explores ways to strengthen the US-Japan alliance, with a particular emphasis on the Special Action Committee on Okinawa (SACO) recommendation to relocate the USMC Futenma Airfield to a sea-based facility, also known as the FRF (Futenma Relocation Facility).

At the macro-level, the US-Japan alliance is on path and it is evolving. Ronald Reagan's 1988 national security strategy noted that, "Solidarity with our allies multiplies the strength of all. It permits a sharing of responsibilities."<sup>1</sup> Today, ties with Japan remain the cornerstone of peace and security in the Asia Pacific; it is further affirmed through the "rebalance" to Asia, which endeavors to strengthen ties with *all* US allies and partners in the region – through economic integration, diplomatic understanding, and strategic postures. As the alliance evolves, the Japan Self-Defense Force (JSDF) is stepping into a more equal partnership with the US as it shoulders more defense responsibility, and as Tokyo transitions back to being a normal nation.

At the micro-level, the picture is not so rosy. Pessimistic views dominate the conversation on the FRF and Futenma. But as of August 2014, Okinawa Gov. Nakaima issued the landfill permit needed to proceed with the FRF construction off the coast of Camp Schwab; progress is underway at Henoko Bay. While the alliance is on track, challenges remain. Problems are simmering at the micro-level, namely the broader difficulties surrounding the Futenma Airfield and the FRF that need active management from the Department of Defense (DOD), Japan's Ministry of Defense (MOD), and the Okinawa Prefectural Government (OPG).

On managing the US-Japan alliance, this report recommends the following:

- Replicate Futenma's original runway length at Henoko;
- US-Japan joint research and development project on a mega-float for military use, with special attention to energy self-sustainability, communication system, electric motors, and the mega-float ability to quickly detach;
- Tokyo and Okinawa establish preventive measures in Nago City so that the FRF will not experience similar environmental lawsuits and operational challenges as Futenma in Ginowan City;
- Platforms that increase healthy interactions and understanding between Okinawa residents and US soldiers should be considered. The goal is to dilute racism toward any culture by working together on a regular basis. Moreover, support organizations are needed for single Okinawan mothers with mixed-race children on the island; prejudice against these children must be addressed;
- Reevaluation is needed within the US military regarding recruitment, training, and culture sensitivity;
- Fulfill the 2013 Okinawa Consolidation accord; and

---

<sup>1</sup> National Security Strategy Archive of the United States. "National Security Strategy of the United States." January 1988. <http://nssarchive.us/NSSR/1988.pdf>.

- Foreign policy in the Asia-Pacific needs more authority; its future effectiveness will depend largely on political stability in the US Congress.

Additionally, this report also recognizes its limitations. These are:

- Further analysis is needed to determine how electricity generated from the mega-float can contribute to existing energy supply in Okinawa; if it can, then whether Okinawa can build infrastructure to support its capacity to export electricity. (See addendum for possible collaborating organizations on this Okinawa energy initiative);
- Cost-benefit analysis should be conducted on economic and energy impact of building an undersea cable that first connects all Okinawa islands (first phase), then connects to Taiwan or mainland Japan (second phase). The second phase should yield long-term monetary returns that insure that investors get their investments back plus profits;
- Studies are needed on the impact of quality of life in Okinawa if stronger zoning laws and regulations are enacted and enforced, and costs associated with environmental cleanup at Futenma should be part of the relocation budget.<sup>2</sup>

---

<sup>2</sup> According to the GAO report, the US is not obligated for environmental cleanup under the Status of Forces Agreement before returning lands to the host nation; however, DOD policy obligates the removal of known environmental contamination caused by operations on DOD installations or facilities to be returned to the host nation. US General Accounting Office, *Overseas Presence: Issues Involved in Reducing the Impact of the US Military Presence on Okinawa*, Norman J. Rabkin, Washington D.C.: GAO/NSIAD-98-66, March 3, 1998, <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-98-66/pdf/GAOREPORTS-NSIAD-98-66.pdf> (accessed May 20, 2013).

## Introduction

21<sup>st</sup> century challenges to the global security environment are hybrid in nature. Increasing international competition for influence and power is driving regional instability; negative externalities in fragile democratic states are spilling over; the proliferation of advanced weapons is outpacing efforts at arms control; and, extremism is threatening the safety of citizens everywhere. Washington is addressing those challenges, but with fewer resources. Moreover, it is facing a resurgence of Russia and an aggressive People's Republic of China. To meet these security challenges head on, relationships and alliance management with key allies and partners are crucial for the United States; in the Asia Pacific, readiness in joint operations with Japan will be vital to peace and security in the region.

### *The US national security strategy*

US national security strategy has not wavered since the end of World War II; moreover, US core interests and objectives have not deviated from basic American values – freedom and democracy.<sup>3</sup> In his 1988 National Security Strategy report to Congress, Reagan acknowledged that there are uncertainties in understanding enemies, and limitations in resources and national will; and yet, the US has been consistent in its belief and strategy since World War II. To explain why this is so, Reagan quoted Water Lippmann, an American writer and journalist:

“...the behavior of nations over a long period of time is the most reliable, though not the only index of their national interests. For though their interests are not eternal, they are remarkably persistent...There is no great mystery why this should be: the facts of geography are permanent...thus successive generations of men tend to face the same recurrent problems and to react to them in more or less habitual ways.”

Since the Cold War, US presidents have continued to engage both the good and the bad of the world. In his 1993 National Security Strategy report, President George H.W. Bush saw that nations were on path to peace and prosperity, the flow of oil to developed economies was uninterrupted, and more people around the world are sharing democratic and free market values.<sup>4</sup> There were also hidden dangers, however, regional instability, fragile democracies, and proliferation of advanced weapons. To manage these complexities, President Bush, as well as preceding presidents, emphasized the importance of allies and responsibility sharing.

In the 21<sup>st</sup> century, the US national security strategy remains the same although the world seems more turbulent and difficult to manage. Under the George W. Bush administration, runaway industries in US banking and finance were created; and these industries contributed to global economic crises.<sup>5</sup> Intelligence and political missteps produced wars in Iraq and

---

<sup>3</sup> National Security Strategy Archive of the United States. “National Security Strategy of the United States.” January 1988. <http://nssarchive.us/NSSR/1988.pdf>.

<sup>4</sup> National Security Strategy Archive of the United States. “National Security Strategy of the United States.” January 1993. <http://nssarchive.us/NSSR/1993.pdf>.

<sup>5</sup> “25 People to Blame for the Financial Crisis,” *Time*, [http://content.time.com/time/specials/packages/article/0,28804,1877351\\_1877350\\_1877320,00.html](http://content.time.com/time/specials/packages/article/0,28804,1877351_1877350_1877320,00.html).

Afghanistan. By the end of his term, wars and the US financial crisis threw a dark shadow over the nation. No longer could Americans say they enjoy great credibility in the world, as George H.W. Bush had proudly written in his 1993 report to Congress.

After the Bush administration, implementation of US national security strategy did not regain its effectiveness, and continues to erode under President Barack Obama. At a time when money and influence are flowing to Asia's advantage, the administration faces difficulties in forging collective agreements – at home and abroad. Partisan politics has been crippling domestic policy making; the White House's decisions on foreign policy are seen as signs of US decline.<sup>6</sup> The combination of weak domestic and international decision-making encourages nations like Russia and China to challenge US leadership, and the existing world order. This is evidenced by the increasingly assertiveness in Chinese military activities in the East Sea and South China Sea; the same military advances have been made by Russia in Eastern Europe, beginning with the Crimea.

Despite multiple flashpoints, the core of Obama's approach to these crises deviates little from its predecessors: He continues the engagement policy. In his 2010 National Security Strategy, Obama acknowledged that Americans cannot bear the burden of a young century alone. To meet old and new challenges exacerbated by globalization, the US will strengthen old alliances and modernize them accordingly.<sup>7</sup> In his 2014 West Point speech, Obama argued against the perception that the US is in decline and cautioned “regional aggression that goes unchecked – whether in southern Ukraine or the South China Sea, or anywhere else in the world – will ultimately impact our allies and could draw in our military.”<sup>8</sup>

Though Obama has not deviated from the traditional approach of engagement, his preference for diplomatic solutions amid crisis is not generating positive outcomes. The difference, for example, could be seen in Israel's response to the US in 1982 vs. 2014. In 1982, the Israelis stopped their bombing in West Beirut only 20 minutes after Reagan made a phone call to Prime Minister Menachem Begin asking him to stop;<sup>9</sup> in 2014, serious tensions exist between Israel and the US over Gaza, and Prime Minister Benjamin Netanyahu told Obama not to second guess him when dealing with Hamas militants.<sup>10</sup> This difference in outcomes derived

---

<sup>6</sup> George Packer, “Decline and fall: how American society unraveled,” *The Guardian*, June 19, 2013, <http://www.theguardian.com/world/2013/jun/19/decline-fall-american-society-unravelling>. And see Kevin Cirilli, “World Poll: Image of US Declines,” *Politico*, March 13, 2013, <http://www.politico.com/story/2013/03/world-poll-image-of-us-declines-88816.html>.

<sup>7</sup> “The burdens of a young century cannot fall on American shoulders alone – indeed, our adversaries would like to see America sap our strength by overextending our power... We are cleared-eyed about the challenge of mobilizing collective action, and the shortfall of our international system. But America has not succeeded by stepping outside of the currents of international cooperation...we will be steadfast in strengthening those old alliances...while modernizing them to meet the challenges of a new century... But even as we are tested by new challenges, the question of our future is not one that will be answered for us, it is one that will be answered by us...America is ready to lead once more.” See National Security Strategy Archive of the United States. “National Security Strategy of the United States.” May 2010. <http://nssarchive.us/NSSR/2010.pdf>.

<sup>8</sup> The White House. “Remarks by the President at the United States Military Academy Commencement Ceremony.” Last updated May 28, 2014. <http://www.whitehouse.gov/the-press-office/2014/05/28/remarks-president-united-states-military-academy-commencement-ceremony/>

<sup>9</sup> Joe Scarborough, “Reagan: His Political Life and Lasting Legacy,” *Time Magazine*, August 2014, 40.

<sup>10</sup> Associated Press, “Netanyahu to US: Don't Second-Guess Me on Hamas,” *Politico*, Aug. 2, 2014, <http://www.politico.com/story/2014/08/netanyahu-to-us-dont-second-guess-me-on-hamas-109664.html>.



from the same national security approach is not limited to the Middle East; it also is happening in Asia.

### *The “Rebalance” to Asia*

Aligned with the US National Security Strategy, the “pivot to Asia” signifies US commitment in the region for the 21<sup>st</sup> century. The policy strives to demonstrate US interests through diplomatic, economic, and strategic investments. The term was first coined by Secretary of State Hillary Clinton in her 2011 *Foreign Policy* publication “America’s Pacific Century.” In the article, Clinton discussed Obama’s “forward-deployed” diplomacy, and outlined six key areas of action, which includes the strengthening of bilateral security alliances.<sup>11</sup> In 2013, Danny Russel in his confirmation testimony has reaffirmed that the bedrock of US strategy is its treaty allies: Japan, the Republic of Korea, Australia, the Philippines, and Thailand.<sup>12</sup>

It is difficult to administer the rebalance. The first challenge is to clarify its intentions. Two years after Clinton’s article, the “rebalance” was still being met with suspicion by regional allies and partners, and especially by China. In 2013, *The Wall Street Journal* reported that “Asian government officials, diplomats and analysts are questioning how committed the US really is to the Asia Pacific,” especially with the potential involvement of military action in

---

<sup>11</sup> “The future of politics will be decided in Asia, not Afghanistan or Iraq, and the United States will be right at the center of the action. One of the most important tasks of American statecraft over the next decade will therefore be to lock in a substantially increased investment – diplomatic, economic, strategic, and otherwise – in the Asia-Pacific region...What does that regional strategy look like? For starters, it calls for a sustained commitment to what I have called “forward-deployed” diplomacy. That means continuing to dispatch the full range of our diplomatic assets – including our highest-ranking officials, our development experts, our interagency teams, and our permanent assets – to every country and corner of the Asia-Pacific region...our work will proceed along six key lines of action: strengthening bilateral security alliances; deepening our working relationships with emerging powers, including with China; engaging with regional multilateral institutions; expanding trade and investment; forging a broad-based military presence; and advancing democracy and human rights. In the last decade, our foreign policy has transitioned from dealing with the post-Cold War peace dividend to demanding commitments in Iraq and Afghanistan. As those wars wind down, we will need to accelerate efforts to pivot to new global realities...which is why the Asia-Pacific represents such a real 21st-century opportunity for us.” Hillary Clinton, “America’s Pacific Century,” *Foreign Policy*, Oct. 11, 2011, [http://www.foreignpolicy.com/articles/2011/10/11/americas\\_pacific\\_century?page=0,6](http://www.foreignpolicy.com/articles/2011/10/11/americas_pacific_century?page=0,6).

<sup>12</sup> “As Senior Director for Asian Affairs on the National Security Staff, I have worked to promote the United States’ increased focus on the Asia-Pacific in line with the President’s strategic priorities and the national interest... I will sustain a “whole-of-government approach” ensuring that the efforts of the State Department are closely coordinated with USAID, the Defense Department, and other agencies...Over the past four years, our robust engagement with the Asia-Pacific through governments, institutions, and people-to-people programs has yielded positive returns politically, socially, economically, and militarily. I intend to sustain this focus and continue the Department’s efforts to strengthen and modernize our alliances, enhance our partnerships with regional powers, support regional multilateral institutions, boost trade and investment, advance democracy and the respect for human rights, and strengthen ties between Americans and the people of the region...First, I firmly believe our treaty alliances with Japan, the Republic of Korea, Australia, the Philippines, and Thailand remain the bedrock for our strategic rebalance to the Asia-Pacific...If confirmed, I will work closely with colleagues at the Defense Department to ensure that our alliances are maintained and modernized in a way that promotes operational needs and our shared strategic goals, including new cooperative efforts in cyber security, space, counter piracy, and counterterrorism.” United States Senate Committee on Foreign Relations. “Evaluating US Policy on Taiwan on the 35<sup>th</sup> Anniversary of Taiwan’s Relations Act.” April 3, 2014. [http://www.foreign.senate.gov/imo/media/doc/Russel\\_Testimony.pdf](http://www.foreign.senate.gov/imo/media/doc/Russel_Testimony.pdf).

Syria.<sup>13</sup> Furthermore, despite reassurances made by Secretary of State John Kerry, suspicions over the military aspect of the policy and questions over US leadership persist.<sup>14</sup>

The second challenge is the Trans-Pacific Partnership (TPP) negotiation process. Its main obstacles are time and China. Currently, the US is negotiating with 11 countries, which includes Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam. Because of the wide range of stakeholders and interests, it will take time for all parties to agree on terms and conditions;<sup>15</sup> moreover, China is the main competitor in wooing regional countries into participating in the TPP. During his visit to Washington DC, Singapore Prime Minister Lee Hsien Loong cautioned that it would be damaging to the US if it fails to ratify the TPP because it would call into question US commitment to the rebalance and the region.<sup>16</sup>

The good news is that the rebalance is making progress. Asian countries are interested in participating in the TPP deal. In 2014, the Philippines has welcomed back US forces by granting five military bases for their rotation;<sup>17</sup> Japan is resuming arms exports and allowing the exercise of right to collective self-defense.<sup>18</sup> Moreover, US alliances in the region is solidifying, especially with Australia joining up with Japan and will be gaining access to Tokyo's submarine

---

<sup>13</sup> "Mrs. Clinton's successor, Secretary of State John Kerry, added to doubts in Asia about the "pivot" at his confirmation hearing in January when he noted the negative reaction from China, and suggested it might be time to change tack. "You know, the Chinese take a look at that and say, 'What's the United States doing? They trying to circle us? What's going on?' And so, you know, every action has its reaction," he said... US officials now protest that the pivot to Asia has been widely misunderstood all along. Indeed, within the Obama administration, there's almost been a pivot away from the "pivot." It's now rare to hear the word used by State Department officials, or to see it in diplomatic communiqués. Officials now insist that the strategy was never conceived as military buildup – and that China was never the target. They stress its nonmilitary initiatives, including the rapid advances that the US has made to forge an ambitious new trade arrangement for the region within the Trans-Pacific Partnership... Mr. Kerry, meanwhile, acknowledged at a security gathering in Brunei in July that many in Asia had questions about the rebalancing. "And the answer I say to all of you is 'yes,' and not just 'yes': We hope to increase the effort." Still, given the rather convoluted history that the pivot has had in its short life, that's little reassurance for Asian countries seeking greater US engagement – military if needed – in the face of China's fast-rising power." Andrew Browne, "China's World: The US 'Pivot' Toward Asia Takes Another Turn," *The Wall Street Journal*, Sept. 10, 2013, <http://online.wsj.com/article/SB10001424127887323595004579064980509607984.html>.

<sup>14</sup> "The flawed and counterproductively militarized "pivot to Asia" policy, reputedly authored by Kurt Campbell, deputy for Asia in Hillary Clinton's State Department, can be seen as a product of the DoD dominated "2+2" mentality in US relations with Asia. Like many senior State officials during the first Obama term – as well as during the G.W. Bush presidency – Richard Armitage being the best example – Campbell was a DoD careerist, selected to fill a vacuum in policy positions at State. That DoD stepped into a policy leadership vacuum created by State's abdication, and has been setting US policy and strategy toward Asia, is the inescapable conclusion to be drawn from the recent spectacular revelations of offensive NSA cyber-attacks on China." Stephen Harner, "US-Japan-China Relations: With The Pentagon Making Policy, Caroline Kennedy's Confirmation Is Irrelevant," *Forbes*, Sept. 16, 2013, <http://www.forbes.com/sites/stephenharner/2013/09/16/u-s-japan-china-relations-and-caroline-kennedys-confirmation-with-dod-making-policy-the-u-s-ambassador-is-irrelevant/>.

<sup>15</sup> Office of the United States Trade Representative Executive Office Of The President. "Overview of the Trans Pacific Partnership." <http://www.ustr.gov/tpp/overview-of-the-TPP/>.

<sup>16</sup> Daljit Singh, "Trade Pact Crucial to America's Rebalance to Asia," *Asia Matters For America*, July 9, 2014, <http://www.asiamattersforamerica.org/asia/trade-pact-crucial-to-americas-rebalance-to-asia>.

<sup>17</sup> Larry Downing, "Philippines to give US forces access to up to five military bases," *Reuters*, May 2, 2014, <http://www.reuters.com/article/2014/05/02/us-philippines-usa-idUSBREA4107020140502>.

<sup>18</sup> France-Presse, "Japan Lifts Own Blanket Arms Export Ban," *Defense News*, April 1, 2014,

<http://www.defensenews.com/article/20140401/DEFREG03/304010013/Japan-Lifts-Own-Blanket-Arms-Export-Ban>. And Kirk Spitzer, "Japan Ends Ban on Military Self-Defense," *Time*, July 1, 2014, <http://time.com/2946076/japan-ends-ban-on-military-self-defense/>.

technology.<sup>19</sup> Perhaps it was due to efforts made on part of the rebalance that, within a short period of time, the alliance in the region has lined up behind the US; alternatively, the hardening of the alliance can also be attributed to Beijing's growing disregard for the current order.

## US-Japan Alliance

Against the backdrop of a rising China, cultivating an effective US alliance system will be essential to the successful implementation of the rebalance. And the US-Japan alliance is an integral part of this system. The objective of the alliance set forth in the Treaty of Mutual Cooperation and Security has remained constant during the Cold War, and it will remain so in the future. That being said, the nature of the alliance is transforming.

### *The 1960 Treaty of Mutual Cooperation and Security*

“The cornerstone of peace and stability in Asia-Pacific” is the expression that defines the US alliance with Japan. In 1960, the Treaty of Mutual Cooperation and Security granted the US rights to maintain military bases on Japanese mainland and on Okinawa.<sup>20</sup> It established a framework for how the US and Japan are to manage their relationship in politics, economics, and defense. For example, in the realm of politics and economics, it states that the two countries will settle any international disputes by peaceful means<sup>21</sup> and, it encourages economic collaboration and elimination of conflict in international economic policies.<sup>22</sup> In the realm of defense, the Treaty guarantees mutual defense in case of an armed attack against territories under the administration of Japan,<sup>23</sup> and it grants the US rights to use land, air, and naval facilities under the jurisdiction of Japan.<sup>24</sup>

---

<sup>19</sup> “Australia-Japan alliance: old enemy lines up behind former foe,” *News.Com.Au*, July 7, 2014, <http://www.news.com.au/national/australiajapan-alliance-old-enemy-lines-up-behind-former-foe/story-fncynjr2-1226980764586>.

<sup>20</sup> United States Department of State. “Agreement Between The United States of America and Japan Concerning New Special Measures Relating to Article XXIV of the Agreement Under Article VI of the Treaty of Mutual Cooperation and Security Between the United States of America and Japan, Regarding Facilities and Areas and the Status of United States Armed Forces in Japan.” 2011. <http://www.state.gov/documents/organization/163490.pdf>.

<sup>21</sup> Article I of the 1960 US-Japan Treaty of Mutual Cooperation and Defense states: “The Parties undertake, as set forth in the Charter of the United Nations, to settle any international disputes in which they may be involved by peaceful means in such a manner that international peace and security and justice are not endangered and to refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the purposes of the United Nations. The Parties will endeavor in concert with other peace-loving countries to strengthen the United Nations so that its mission of maintaining international peace and security may be discharged more effectively.” Ministry of Foreign Affairs of Japan. “Japan – US Security Treaty.” Last modified 2014. <http://www.mofa.go.jp/region/n-america/us/q&a/ref/1.html>.

<sup>22</sup> Article II of the 1960 US-Japan Treaty of Mutual Cooperation and Defense states: “The Parties will contribute toward the further development of peaceful and friendly international relations by strengthening their free institutions, by bringing about a better understanding of the principles upon which these institutions are founded, and by promoting conditions of stability and well-being. They will seek to eliminate conflict in their international economic policies and will encourage economic collaboration between them.” Ministry of Foreign Affairs of Japan. “Japan – US Security Treaty.” Last modified 2014. <http://www.mofa.go.jp/region/n-america/us/q&a/ref/1.html>.

<sup>23</sup> Article V of the 1960 US-Japan Treaty of Mutual Cooperation and Defense states: “Each Party recognizes that an armed attack against either Party in the territories under the administration of Japan would be dangerous to its own peace and safety and declares that it would act to meet the common danger in accordance with its constitutional provisions and processes. Any such armed attack and all measures taken as a result thereof shall be immediately reported to the Security Council of the United Nations in accordance with the provisions of Article 51 of the Charter. Such measures shall be terminated when the Security Council has taken the measures necessary to restore and maintain international peace and security.” Ministry of Foreign Affairs of Japan. “Japan – US Security Treaty.” Last modified 2014. <http://www.mofa.go.jp/region/n-america/us/q&a/ref/1.html>.

Moreover, Article 4 of the Treaty provides the legal<sup>25</sup> basis to establish communication channels at the highest level of both governments – the SCC, also known as the 2+2 Meeting. The 2+2 provides a platform where the US secretaries of State and Defense meet with Japan’s ministers of Foreign Affairs and Defense. The meetings are to promote understanding between the United States and Japan in security cooperation.<sup>26</sup>

In addition to facilitating communication between high-level officials, the 2+2 has also paved the way for other consultative forums such as the Security Subcommittee to exchange views on security issues; the Subcommittee for Defense Cooperation in 1976 (“SDC”) to study and consider consultative measures; and the US-Japan Joint Committee to consult on matters regarding implementation of the Status of Forces Agreement.<sup>27</sup>

Since its inception, the role of the alliance has evolved according to changing security needs though the nature of the alliance usually remains unchanging unless something extraordinary shocks Japan into movement. Today, the driving force behind a changing Japan is its threat perception in conjunction with hope that the world can understand that Japan is becoming a normal nation.

#### *Drivers Behind the Transformation: Japan’s Threat Perception and Normalization*

Since the end of World War II, Japan has developed a track record of incremental legislative changes to shoulder more defense responsibilities and to transform the alliance. Before the collapse of the Soviet Union, Japan built defense capabilities according to its 1976 National Defense Program Outline (NDPO). It assumed that the global situation would not undergo major changes, and that stabilization efforts would continue. However, the global environment has changed rapidly, and thus the alliance has been modernizing on the basis of transforming Japan’s defense capabilities.

---

<sup>24</sup> Article VI of the 1960 US-Japan Treaty of Mutual Cooperation and Defense states: “For the purpose of contributing to the security of Japan and the maintenance of international peace and security in the Far East, the United States of America is granted the use by its land, air and naval forces of facilities and areas in Japan. The use of these facilities and areas as well as the status of United States armed forces in Japan shall be governed by a separate agreement, replacing the Administrative Agreement under Article III of the Security Treaty between Japan and the United States of America, signed at Tokyo on Feb. 28, 1952, as amended, and by such other arrangements as may be agreed upon.” Ministry of Foreign Affairs of Japan. “Japan – US Security Treaty.” Last modified 2014. <http://www.mofa.go.jp/region/n-america/us/q&a/ref/1.html>.

<sup>25</sup> Article IV of the Treaty states that the “Parties will consult together from time to time regarding the implementation of this Treaty, and, at the request of either Party, whenever the security of Japan or international peace and security in the Far East is threatened.” Ministry of Foreign Affairs of Japan. “Japan – US Security Treaty.” Last modified 2014. <http://www.mofa.go.jp/region/n-america/us/q&a/ref/1.html>. “Defense of Japan 2014,” Ministry of Defense of Japan, accessed Sept. 6, 2014, [http://www.mod.go.jp/e/publ/w\\_paper/pdf/2010/32Part3\\_Chapter2\\_Sec3.pdf](http://www.mod.go.jp/e/publ/w_paper/pdf/2010/32Part3_Chapter2_Sec3.pdf).

<sup>26</sup> Article IV of the Treaty states that the “Parties will consult together from time to time regarding the implementation of this Treaty, and, at the request of either Party, whenever the security of Japan or international peace and security in the Far East is threatened.” Ministry of Foreign Affairs of Japan. “Japan – US Security Treaty.” Last modified 2014. <http://www.mofa.go.jp/region/n-america/us/q&a/ref/1.html>. “Defense of Japan 2014,” Ministry of Defense of Japan, accessed Sept. 6, 2014, [http://www.mod.go.jp/e/publ/w\\_paper/pdf/2010/32Part3\\_Chapter2\\_Sec3.pdf](http://www.mod.go.jp/e/publ/w_paper/pdf/2010/32Part3_Chapter2_Sec3.pdf).

<sup>27</sup> “Defense of Japan 2014,” Ministry of Defense of Japan, accessed Sept. 6, 2014, [http://www.mod.go.jp/e/publ/w\\_paper/pdf/2010/32Part3\\_Chapter2\\_Sec3.pdf](http://www.mod.go.jp/e/publ/w_paper/pdf/2010/32Part3_Chapter2_Sec3.pdf).

The 1978 Guidelines for Japan-US Defense Cooperation (“Guidelines”) set expectations for Japan. Approved by the SCC, this legislation created a framework for US-Japan joint operations and strategic planning. According to the Guidelines, “Japan, as its defense policy, will possess defense capability on an appropriate scale within the scope necessary for self-defense, and consolidate and maintain a posture to ensure the most efficient operations... In order to be able to take coordinated joint action smoothly in the event of an armed attack against Japan, Japan and the United States will endeavor to achieve a posture for cooperation between the Self-Defense Forces and US Forces in such areas as operations, intelligence and logistics.”<sup>28</sup>

In the event of contingencies arising outside Japan, the language in the Guidelines was vague enough to provide wiggle room for interpretation. It states that when there are changes to global situations, and when circumstances demand, the US and Japan were to enter consultations; when it applies, the two countries will abide by the US-Japan Security Treaty and its relevant legal arrangements.<sup>29</sup> This last item on the Guidelines is crucial because it points to where laws and regulations may be expanded or reinterpreted to help redefine the alliance.<sup>30</sup> While the 1978 legislation failed to address how the JSDF would respond in the event of an armed attack on the United States, it did pave the way for future USFJ and JSDF joint operations and planning, modernization, and the increase of Japan’s defense budget.

In 1983, Tokyo partially lifted the constitutional ban on arms export and development;<sup>31</sup> in 1985, it incorporated the notion of force modernization and increased defense responsibilities in its Five Year Defense Plan. To implement the Five Year Defense Plan, Tokyo’s defense budget increased more than 5 percent each year during 1983 to 1988.<sup>32</sup>

---

<sup>28</sup> See Guidelines for Japan-US Defense Cooperation, Posture for Deterring Aggression items 1 and 2. “Guidelines for Japan-US Defense Cooperation,” Federation of American Scientists, accessed Sept. 6, 2014, <http://www.fas.org/news/japan/sisin1e.htm>.

<sup>29</sup> “The Governments of Japan and the United States will consult together from time to time whenever changes in the circumstances so require. The scope and modalities of facilitative assistance to be extended by Japan to the US Forces in the case of situations in the Far East outside of Japan which will have an important influence on the security of Japan will be governed by the Japan-US Security Treaty, its related arrangements, other relevant agreements between Japan and the United States, and the relevant laws and regulations of Japan. The Governments of Japan and the United States will conduct studies in advance on the scope and modalities of facilitative assistance to be extended to the US Forces by Japan within the above-mentioned legal framework. Such studies will include the scope and modalities of joint use of the Self-Defense Forces bases by the US Forces and of other facilitative assistance to be extended.” Guidelines for Japan-US Defense Cooperation,” Federation of American Scientists, accessed Sept. 6, 2014, <http://www.fas.org/news/japan/sisin1e.htm>.

<sup>30</sup> “Japan’s presumed counter-A2/AD ambitions are restricted by Article 9 of its constitution, which forbids the nation from using military forces to settle international disputes, and the ban on “collective defense,” or the right to use force to aid an ally who is under attack. “In other words, the Japanese protection of US forces fighting in aid of Japanese defense is the same as Japan fighting for Japan’s defense,” Wallace said. “The tricky issue comes when we go outside of Japan’s defense perimeter, say into the South China Sea. In which case, the issue becomes legally clouded.” “Beyond improving its ASW capabilities and building its resilience to electronic and cyber warfare attacks, there is little else Japan can do to counter a Chinese A2/AD strategy within the confines of Article 9. As it stands, “Japan cannot strike at Chinese offensive capabilities such as cruise missiles, etc.,” Manicom said.” Paul Kallender-Umez, “Japan Quietly Builds Limited Counter A2AD Capabilities,” *Defense News*, Sept. 17, 2013, <http://www.defensenews.com/article/20130917/DEFREG03/309170019/Japan-Quietly-Builds-Limited-Counter-A2-AD-Capabilities>.

<sup>31</sup> “In 1983, Tokyo partly lifted the constitutional ban on arms export and development when Japan agreed to join a study with the US on a missile technology program.” Suvendrini Kakuchi, “Japan: ‘Peace Constitution’ debate heats up,” *Asia Times*, Jan. 8, 2004, <http://www.atimes.com/atimes/Japan/FA08Dh03.html>.

<sup>32</sup> National Security Strategy Archive of the United States. “National Security Strategy of the United States.” January 1988. <http://nssarchive.us/NSSR/1988.pdf>.

In 1995, Japan's role in the alliance was redefined by the NDPO, as it provided Japan justification for more flexible defense spending in the post-Cold War era.<sup>33</sup> In the new NDPO, Tokyo abides by its basic defense policy, which allows Japan to possess a "minimum necessary defense capability." The caveat to this "minimum" defense capability is consideration of changing circumstances in: 1) global environment, 2) security situation surrounding regions of Japan, 3) proliferation of weapons of mass destruction, and 4) advancement in science and technology, etc.<sup>34</sup>

Entering the 21<sup>st</sup> century, Japan's sense of regional security and stability has begun to deteriorate due to negative externalities generated by the circumstances listed above. More specifically, Japan's sense of security is correlated to the rise of China's military. In 2001, Dr. James Przystup, senior fellow at the Institute of National Strategic Studies at the National Defense University, analyzed the Japan-China relationship and described it as "spiraling downward." Dr. Przystup noticed in Japan's 2001 defense white paper that Tokyo was alarmed by the sharp increase in China's military investment, namely, in the PLA's rapid buildup of its medium-range missiles and the PLAN's intelligence gathering in Japan's exclusive economic zone (EEZ). Consequently, Tokyo made adjustments in the NDPO, and shifted the JSDF to the south in Kyushu and in Okinawa due to concerns over Beijing's desire to develop a blue-water navy, and possible confrontations in the Korean Peninsula and the Taiwan Strait.<sup>35</sup>

In the wake of the Sept 11, 2001 terror attacks on the US, Japan adjusted its role again to assist with US operations. On October 2001, Tokyo adopted the Anti-Terrorism Special Measures Law ("ATSML"). Under the law, Japan expanded its defense activities from "areas surrounding Japan" to "areas where combat is not taking place or not expected to take place while Japan's activities are being implemented," and this includes the high seas, exclusive

---

<sup>33</sup> "The Prime Minister confirmed Japan's fundamental defense policy as articulated in its new "National Defense Program Outline" adopted in November, 1995, which underscored that the Japanese defense capabilities should play appropriate roles in the security environment after the Cold War. The Prime Minister and the President agreed that the most effective framework for the defense of Japan is close defense cooperation between the two countries. This cooperation is based on a combination of appropriate defense capabilities for the Self-Defense Forces of Japan and the Japan-US security arrangements. The leaders again confirmed that US deterrence under the Treaty of Mutual Cooperation and Security remains the guarantee for Japan's security." Ministry of Foreign Affairs of Japan. "Japan – US Joint Declaration on Security Alliance for the 21<sup>st</sup> Century." Last modified April 17, 1996. <http://www.mofa.go.jp/region/n-america/us/security/security.html>.

<sup>34</sup> Japan has built its defense capability in accordance with "the Outline," which incorporates the concept of a basic and standard defense capability, defined as possessing the minimum necessary defense capability for an independent nation so that it would not become a source of instability in the surrounding regions by creating a vacuum of power rather than building a capability directly linked to a military threat to Japan. The defense capability defined in "the Outline" aims to possess the assorted functions required for national defense, while retaining a balanced posture in terms of organization and deployment, including logistical support. This capability was derived from relevant factors such as the strategic environment, geographical characteristics, and other aspects of Japan's position... it is appropriate that Japan's defense capability be restructured, both in scale and functions, by streamlining, making it more efficient and compact, as well as enhancing necessary functions and making qualitative improvements to be able to effectively respond to a variety of situations and simultaneously ensure the appropriate flexibility to smoothly deal with the development of the changing situations. Ministry of Foreign Affairs of Japan. "National Defense Program Outline in and after FY1996." Last modified 2014. <http://www.mofa.go.jp/region/n-america/us/q&a/ref/6a.html>.

<sup>35</sup> Przystup, James J., "Japan – China Relations: Spiraling Downward." *Institute for National Strategic Studies*: 97-106. [http://csis.org/files/media/isis/pubs/0103qjapan\\_china.pdf](http://csis.org/files/media/isis/pubs/0103qjapan_china.pdf).

economic zones, and airspace above foreign territories.<sup>36</sup> The language in the ATSMML provided the legal basis for such actions, in addition to the Guidelines, for Japan to respond to US requests for assistance in Iraq and Afghanistan. By this time, Japan's FY 2004 defense budget total spending has increased more than nine times from 1999 to 2003.<sup>37</sup>

In addition to making legislative changes, Tokyo also risks public backlash as it shoulders more defense responsibility. According to a 2004 *Asia Times* report, despite apprehension from over 80 percent of Japanese to sending troops to Iraq, Prime Minister Koizumi responded to US requests and sent Japanese troops to Iraq to assist with the occupation.<sup>38</sup> Despite 53 percent of Japanese being opposed to adopting a new Constitution without Article 9 in 2005, Koizumi pushed for Japan to exercise its right to collective self-defense to aid anti-terror efforts.<sup>39</sup> Due to domestic opposition Japan pulled out of the Afghanistan coalition in 2007. Nonetheless, Japan's billions of dollars to support development and security initiatives in Afghanistan won NATO's praise in 2011 as a valued partner in Afghanistan.<sup>40</sup>

---

<sup>36</sup> Under the Basic Principles in the Anti-Terrorism Special Measures Law, "GOJ shall implement Cooperation and Support Activities, Search and Rescue Activities, Assistance to Affected People and other necessary measures...contributing actively and on its own initiatives to the efforts of the international community for the prevention and eradication of international terrorism...These measures must not constitute the threat or use of force...measures shall be implemented in...Japan's territory...areas where combat is not taking place or not expected to take place while Japan's activities are being implemented. The high seas, including the exclusive economic zone stipulated in the UN Convention on the Law of the Sea, and airspace above territory of foreign countries (Implementation shall be limited to cases where consent from the territorial countries has been obtained.)" Prime Minister of Japan and His Cabinet. "The Anti-Terrorism Special Measures Law." Last modified October 2001. [http://www.kantei.go.jp/foreign/policy/2001/anti-terrorism/1029terohougaiyou\\_e.html](http://www.kantei.go.jp/foreign/policy/2001/anti-terrorism/1029terohougaiyou_e.html).

<sup>37</sup> "Conservative newspapers such as the leading *Yomiuri Shimbun* argue that a new constitution is long overdue, given China's military buildup and the threat of North Korean nuclear weapons and its missile program aimed at Japan...Citing growing security worries, Japan's Defense Agency has requested US\$1.2 billion for its fiscal 2004 budget, nine times the total spent from 1999-2003." Suvendrini Kakuchi, "Japan: 'Peace Constitution' debate heats up," *Asia Times*, Jan. 8, 2004, <http://www.atimes.com/atimes/Japan/FA08Dh03.html>.

<sup>38</sup> "Prime Minister Junichiro Koizumi and his Cabinet voted on Dec. 9 to deploy Japan's ground, air and maritime self-defense forces (SDF) to participate in the US-led occupation of Iraq. The decision is a definitive turning point and has been recognized as such in Japan. For the first time since World War II, Japanese troops will enter what is unambiguously a war zone, with the expectation of seeing combat. The Japanese force will number close to 1,100." James Conachy, "Koizumi sends Japanese troops to Iraq," *World Socialist Website*, <https://www.wsws.org/en/articles/2003/12/japa-d16.html>.

<sup>39</sup> "...the decision has been opposed by almost 80 percent of the public because of constitutional restrictions, Koizumi is pushing a 2005 deadline...for rewriting Japan's constitution and changing the provision that renounces war by the country – Article 9." And "...a research project team completed a draft on amendments to the constitution that includes the creation of new defense forces and a clear stipulation that Japan can exercise its right to collective self-defense." Suvendrini Kakuchi, "Japan: 'Peace Constitution' debate heats up," *Asia Times*, Jan. 8, 2004, <http://www.atimes.com/atimes/Japan/FA08Dh03.html>.

<sup>40</sup> "Japan's government has ordered its navy to end its mission in support of coalition forces in Afghanistan after failing to win opposition backing to renew the deployment before today's midnight deadline. Since 2001, Japan has provided about 126m gallons of fuel to US, British and other vessels operating in the Indian Ocean. The two Japanese ships on duty – the supply ship *Tokiwa* and the destroyer *Kirisame* – are expected back home in about three weeks...But US defense department spokesman Geoff Morrell said the decision would not have "any operational impact whatsoever". Japan provided about one-fifth of all fuel consumed by coalition ships between December 2001 and February 2003, according to Pentagon data, but only about 7% since then." Justin McCurry, "Japan Pulls Out of Afghanistan Coalition," *The Guardian*, Nov. 1, 2007, <http://www.theguardian.com/world/2007/nov/01/afghanistan.japan>. North Atlantic Treaty Organization. "Japan: a valued partner in Afghanistan." Last updated April 28, 2011. [http://www.nato.int/cps/en/SID-256A6526-8839190C/natolive/news\\_72931.htm](http://www.nato.int/cps/en/SID-256A6526-8839190C/natolive/news_72931.htm).

"Having provided US\$2.49 billion in assistance to date, Japan has proved to be a valued and reliable partner in supporting development and security initiatives across Afghanistan. Japan's priority is to try to achieve a balance between security and development in order to enable a sustainable transition of authority on all fronts to the Afghan government. The pledge of an additional US\$5 billion aid package in November 2009 demonstrates Japan's continued commitment to supporting the mission of the NATO-led International Security Assistance Force (ISAF)..."

Having already expanded its defense capabilities, Japan's concerns with China's military development continue to deepen because the country falls within the range of Chinese ballistic missile attack and PLAN's maritime activities. In 2004, Japan approved a new NDPG to prepare for the likelihood of missile attacks and for the possibility of an invasion in its offshore islands.

The 2004 NDPG not only moved away from the original defense purpose of preparing for a full-scale invasion, it also pushed Japan's police, Coast Guard, and Self-Defense Force to become a mobile force, and provided them with a technological boost. According to the 2004 NDPG, Japan's threat perception envisions a lower likelihood of a full-scale invasion of the Mainland, and a higher likelihood of ballistic missile attacks, attacks by special operation forces, and invasion of off-shore islands.<sup>41</sup> To respond to these threats, Japan's two basic security policy objectives were: 1) to prevent threats from reaching Japan and repelling it in the event that threat reaches Japan; and 2) to improve the international security environment before any threat reaches Japan. So early in the 21<sup>st</sup> century, the JSDF had positioned itself to be "multi-functional, flexible, and streamlined."<sup>42</sup>

By 2010, the global and regional security environment had become increasingly murky. The line between friends and foes was blurred. According to the 2010 NDPG, Japan's threat perception included concerns over the increase of the "grey zone," namely disputes over territory, sovereignty, and economic interests. Moreover, Japan concluded the shifting balance of power, increasing military activities from China and Russia, cyber insecurity, and threats from North Korea were destabilizing to the region.

Against this backdrop, from 2010 to 2013, Tokyo moved to make structural and budget changes to expand JSDF capabilities. First, Japan expanded its 2004 NDPG<sup>43</sup> to include three

---

<sup>41</sup> "Regarding the future defense force, Japan will develop highly responsive and mobile defense forces capable of dealing effectively with new threats and diverse situations, and deploy them appropriately in accordance with Japan's geographical characteristics. Japan's future defense forces should be capable of coping with ballistic missile attacks, attacks carried out by guerrillas and special operations forces, and invasion of offshore islands. They should also be able to execute patrol and surveillance in the sea and airspace surrounding Japan, and respond to the violation of airspace, the intrusion of armed special-purpose ships and other similar vessels, and large-scale and/or special-type (nuclear, biological, chemical, and radiological) disasters. Should such a situation emerges, the defense forces will respond in smooth and close collaboration with the police and other relevant organizations, thereby providing a seamless response to the situation in accordance with circumstances and designated roles...because the original role of our defense forces is to cope with full-scale invasion and reconstructing these forces cannot be accomplished in a short period of time, Japan will continue to maintain the most basic capabilities of its defense forces, while also taking into account developments in neighboring countries and making use of technological progress." Ministry of Defense of Japan. "Statement By The Chief of Cabinet Secretary." Dec. 10, 2004. [http://www.mod.go.jp/e/d\\_act/d\\_policy/pdf/statement.pdf](http://www.mod.go.jp/e/d_act/d_policy/pdf/statement.pdf).

<sup>42</sup> "The new NDPG have clearly stated that relevant organizations such as the Self-Defense Forces, the police, and the Japan Coast Guard will utilize all available means and work closely together to protect Japan and its people. In addition, as a part of its own effort, Japan will engage in diplomatic and other activities to improve the international security environment so as to prevent the emergence of any threats. Japan's defense forces – the ultimate guarantee of its national security – should be capable of effectively responding to any new threats and diverse situations, while inheriting the elements of the Basic Defense Force Concept that still remain valid. Japan's defense forces should also be capable of actively participating in international peace cooperation activities in order to improve the international security environment. While roles that the defense forces have to play are multiplying and fiscal conditions continue to deteriorate, Japan's future defense forces should be multi-functional, flexible, and effective while, at the same time, more rationalized and streamlined." Ministry of Defense of Japan. "Statement By The Chief of Cabinet Secretary." Dec. 10, 2004. [http://www.mod.go.jp/e/d\\_act/d\\_policy/pdf/statement.pdf](http://www.mod.go.jp/e/d_act/d_policy/pdf/statement.pdf).

<sup>43</sup> According to the 2004 NDPG, Japan declared that it has two basic security policy objectives: (a) to prevent any threat from reaching Japan and, in the event that it does, to repel it; and (b) to improve the international security environment in order to prevent any threat from reaching Japan in the first place. The new NDPG make it clear that, in particular, improving the international security environment is one of the major pillars of the security policy of Japan, whose prosperity and growth depend



items in its basic security principles: 1) “the prevention and elimination of potential threats to Japan and the minimization of the damages thereof; 2) the further stabilization of the security environment of the Asia-Pacific region and the prevention of the occurrence of threats through the improvement of the global security environment; and 3) contribution to world peace and stability and establishing security for people.”<sup>44</sup>

Second, Japan replaced the Basic Defense Force Concept<sup>45</sup> with the new “Dynamic Defense Force.”<sup>46</sup> According to the 2010 NDPG, the dynamic defense force allows the JSDF to play active roles in a wide spectrum of incidents, and add to Japan’s deterrent capability by increasing equipment usage and swiftness in operations.<sup>47</sup> By 2010, under the dynamic defense force, Japan is increasing bilateral joint training exercises, expanding cooperative surveillance activities and joint bases;<sup>48</sup> to reciprocate, the US is addressing concerns on the coordination of USFJ realignment, and the reduction of US forces in Okinawa.<sup>49</sup> Third, Japan announced defense upgrades to meet a wider spectrum of contingences – traditional, nontraditional, and the grey zone at the 2013 US-Japan 2+2 meeting. Fourth, Tokyo moved to create a National Security Council for issuing the nation’s national security strategy.

Amid the alliance upgrades and the JSDF capability expansions, Tokyo backed its commitment by boosting the nation’s defense budget in FY2013 relative to its FY2010 budget.<sup>50</sup>

---

heavily on the security of sea lines of communication. Ministry of Defense of Japan. “Statement By The Chief of Cabinet Secretary.” Dec. 10, 2004. [http://www.mod.go.jp/e/d\\_act/d\\_policy/pdf/statement.pdf](http://www.mod.go.jp/e/d_act/d_policy/pdf/statement.pdf).

<sup>44</sup> Japan Ministry of Defense. *Defense of Japan 2012*. (ISBN 978-4-8458-4433-3). Tokyo, Japan: Erklaren Inc., Oct. 30, 2012.

<sup>45</sup> “The characteristics of the 1976 NDPG were that it incorporated the Basic Defense Force Concept as the basic concept behind the defense program, and, at the same time, it stipulated clearly the specific goals or levels of defense capabilities that should be built up under this concept.” Ministry of Defense of Japan. “Part II The Basics of Japan’s Defense Policy and Build-up of Defense Capability.” July 2011. [http://www.mod.go.jp/e/publ/w\\_paper/pdf/2011/07\\_Part2\\_Chapter2.pdf](http://www.mod.go.jp/e/publ/w_paper/pdf/2011/07_Part2_Chapter2.pdf).

<sup>46</sup> “Japan will build a “Dynamic Defense Force” which supersedes “the Basic Defense Force Concept”, the latter being a concept that places priority on ensuring deterrence through the existence of defense forces per se.” Ministry of Defense of Japan.

“Summary of National Defense Program Guidelines for FY2011 and Beyond.” Dec. 17, 2010. [http://www.mod.go.jp/e/d\\_act/d\\_policy/pdf/summaryFY2011.pdf](http://www.mod.go.jp/e/d_act/d_policy/pdf/summaryFY2011.pdf).

<sup>47</sup> “Dynamic Defense Force” will increase the credibility of Japan’s deterrent capability through raising levels of equipment use and increasing operations tempo. It will also enable Japan to play active roles in various occasions such as international peace cooperation activities. Ministry of Defense of Japan. “Summary of National Defense Program Guidelines for FY2011 and Beyond.” Dec. 17, 2010. [http://www.mod.go.jp/e/d\\_act/d\\_policy/pdf/summaryFY2011.pdf](http://www.mod.go.jp/e/d_act/d_policy/pdf/summaryFY2011.pdf).

<sup>48</sup> Japan Ministry of Defense. *Defense of Japan 2012*. (ISBN 978-4-8458-4433-3). Tokyo, Japan: Erklaren Inc., Oct. 30, 2012.

<sup>49</sup> Japan Ministry of Defense. *Defense of Japan 2012*. (ISBN 978-4-8458-4433-3). Tokyo, Japan: Erklaren Inc., Oct. 30, 2012. According to the *Defense of Japan 2012 Digest*, discussions concerning the coordination of USFJ realignment includes: stationing of US Forces in Okinawa, namely the relocation of Futenma Air Station; and stationing of the US Forces in regions other than Okinawa, namely the relocation of Air Defense Command Headquarters to Yokota Air Base.

<sup>50</sup> “Recognizing the implications of the evolving regional and global security environment, the Ministers directed the Subcommittee for Defense Cooperation (SDC) to draft recommended changes to the 1997 Guidelines for US-Japan Defense Cooperation, to ensure that the Alliance continues its vital role in deterring conflict and advancing peace and security. The Ministers identified several objectives for this revision, including: ensuring the Alliance’s capacity to respond to an armed attack against Japan, as a core aspect of US-Japan defense cooperation; expanding the scope of cooperation, to reflect the global nature of the US-Japan Alliance, encompassing such areas as counter-terrorism, counter-piracy, peacekeeping, capacity building, humanitarian assistance/disaster relief, and equipment and technology enhancement; promoting deeper security cooperation with other regional partners to advance shared objectives and values; enhancing Alliance mechanisms for consultation and coordination to make them more flexible, timely, and responsive and to enable seamless bilateral cooperation in all situations; describing appropriate role-sharing of bilateral defense cooperation based on the enhancement of mutual capabilities; evaluating the concepts that guide bilateral defense cooperation in contingencies to ensure effective, efficient, and seamless Alliance response in a dynamic security environment that includes challenges in emerging strategic domains such as space and cyberspace; and exploring additional ways in which we can strengthen the Alliance in the future to meet shared objectives.”

According to the Japan Statistics Bureau, Ministry of Internal Affairs and Communication, the security budget in Japan slid from ¥4.818 billion in FY 2011 to ¥4.754 billion in FY2013; that figure was still a boost from the allocation of ¥4.670 billion in FY2010.<sup>51</sup>

Finally, China's increasingly irrational and aggressive behavior in the East Sea, the South China Sea, and in the cyber realm during the 2010-2014 period prompted strong reactions from Japan. In its 2014 Defense White Paper, Tokyo specifically stated that the "security environment surrounding Japan has become increasingly severe, being encompassed by various challenges and destabilizing factors, which are becoming more tangible and acute."<sup>52</sup> The same year, Prime Minister Abe reversed the ban on JSDF right on collective self-defense,<sup>53</sup> and lifted the ban on weapons export.<sup>54</sup>

Since the inception of the alliance, Tokyo has overcome legislative difficulties and is continuing to risk public outcry to modernize the defense policy, and to move toward normalization. This is a path envisioned by the US decades ago, and it is a path that Japan is continuing to strive for. When it comes to responding to security threats, Japan has moved away from words such as "repel" and "prevent" instead, it now aims "to eliminate" and "to contribute." In the years ahead, the goal is for Tokyo to shoulder greater defense responsibilities, and therefore, the trajectory is for Japan to once again be a normal nation.

## US forces in Okinawa

The presence of US forces in Okinawa is of strategic importance, because it provides the US with forward deployment and logistics capabilities. Japan hosts roughly 53,000 US military personnel and dedicates 89 facilities for their use; of the 89 facilities, 37 are on Okinawa.<sup>55</sup> These major forward facilities allow the alliance to execute its overall strategic objectives under time constraints.<sup>56</sup>

Due to Okinawa proximity and access to Eurasia, the Pacific Ocean, Japan's sea lanes, and the region's sea lines of communication (SLOC), USFJ can respond rapidly. For instance, in contingencies arising in places surrounding Japan, USFJ response time is significantly shorter in comparison to deploying troops from the US mainland, Hawaii, or Guam. Without bases in

---

Ministry of Foreign Affairs of Japan. "Joint Statement of Security Consultative Committee: Toward a More Robust Alliance and Greater Shared Responsibilities." Oct. 3, 2013. <http://www.mofa.go.jp/mofaj/files/000016028.pdf>.

<sup>51</sup> Table 4.2 on Expenditure of General Account at Statistics Bureau, Ministry of Internal Affairs and Communications. "Statistics Handbook of Japan 2013." <http://www.stat.go.jp/english/data/handbook/c0117.htm>.

<sup>52</sup> Ministry of Defense of Japan. "Part I Security Environment Surrounding Japan: Overview." 2014. [http://www.mod.go.jp/e/publ/w\\_paper/pdf/2014/DOJ2014\\_1-1-0\\_1st\\_0730.pdf](http://www.mod.go.jp/e/publ/w_paper/pdf/2014/DOJ2014_1-1-0_1st_0730.pdf).

<sup>53</sup> "Japan ruling parties agree to plan to drop ban on collective self-defense-lawmaker," *Reuters*, June 30, 2014, <http://www.cnbc.com/id/101801965#>.

<sup>54</sup> Martin Fackler, "Japan Ends Decades-Long Ban on Export of Weapons," *The New York Times*, April 1, 2014, [http://www.nytimes.com/2014/04/02/world/asia/japan-ends-half-century-ban-on-weapons-exports.html?\\_r=0](http://www.nytimes.com/2014/04/02/world/asia/japan-ends-half-century-ban-on-weapons-exports.html?_r=0).

<sup>55</sup> Chanlett-Avery, Emma and Rinehart, Ian E. "The US-Japan Alliance." Congressional Research Service, Dec. 12, 2013. <http://fas.org/sgp/crs/row/RL33740.pdf>.

<sup>56</sup> Chanlett-Avery, Emma and Rinehart, Ian E. "The US-Japan Alliance." Congressional Research Service, Dec. 12, 2013. <http://fas.org/sgp/crs/row/RL33740.pdf>.

Okinawa and mainland Japan, distance alone can delay response time. For example, the distance between Yokohama and San Diego is 5,607 miles (13 hours);<sup>57</sup> it's 3,865 miles (7.7 hours) from Yokohama to Honolulu;<sup>58</sup> from Yokohama to Guam is 1,546 miles (3 hours).<sup>59</sup>

Presence, and the ability to respond quickly in the region, is crucial because part of the challenge today is growing insecurity in SLOCs. With globalization expanding the flow of international commerce and trade, traffic on the high seas has been increasing. According to the 2010 World Shipping Council trade statistics, China, the US, and Japan exported 31.3 million TEUs (20-foot equivalent units)<sup>60</sup>, 11.2 million TEUs, and 5.7 million TEUs, respectively, making them the top three exporters of containerized cargo. In the same year, the US, China, and Japan imported 17.6 million TEUs, 12 million TEUs, and 6.1 million TEUs, respectively, of goods in containers.<sup>61</sup>

Because it is essential for nations to receive energy-related cargos on a timely matter; a stable flow of crucial resources is a core security concern. This is especially true for Japan, which depends heavily on container cargos for energy imports. In 2011, Japan was the third-largest net importer of oil in the world. After the March 11, 2011 incident, Tokyo replaced lost nuclear power with low sulfur, heavy crudes for direct burn in power plants from Southeast Asia sources, i.e., Vietnam, Indonesia, and Malaysia. In addition, 96.4 percent of domestic natural gas is imported, and LNG is supplied by Australia, Malaysia, Brunei, Indonesia, and other nations.<sup>62</sup>

With proximity and time being the essence of a forward-deployed US presence, bases in Okinawa has been critical for the alliance. In the 2013 2+2, the US and Japan pledged to create a more robust alliance, while they acknowledged the difficulties in their relationship, namely, the

---

<sup>57</sup> TimeandDate.Com. "Distance from San Diego to Yokohama." 2014.

<http://www.timeanddate.com/worldclock/distanceresult.html?p1=770&p2=667>. And see TimeandDate.Com. "Travel Time Calculator." 2014.

<http://www.timeanddate.com/time/travel.html?p1=770&p1o=20131020T000000&p2=667&p2o=20131021T000000>. (This is with average traveling speed of 500 mph.)

<sup>58</sup> TimeandDate.Com. "Distance from Honolulu to Yokohama." 2014.

<http://www.timeanddate.com/worldclock/distanceresult.html?p1=103&p2=667>. And see TimeandDate.Com. "Travel Time Calculator." 2014.

<http://www.timeanddate.com/time/travel.html?p1=103&p1o=20131020T000000&p2=667&p2o=20131021T000000>. (This is with average traveling speed of 500 mph.)

<sup>59</sup> TimeandDate.Com. "Distance from Hagåtña to Yokohama." 2014.

<http://www.timeanddate.com/worldclock/distanceresult.html?p1=91&p2=667>. And see TimeandDate.Com. "Travel Time Calculator." 2014.

<http://www.timeanddate.com/time/travel.html?p1=91&p1o=20131020T000000&p2=667&p2o=20131021T000000>. (This is with average traveling speed of 500 mph.)

<sup>60</sup> One TEU is a 20-foot-long (6.1m) container. It is common to designate 45-foot (13.7m) containers as two TEU. In 2008, export TEU averaged 12 tons and import TEU averaged 9 tons. The World Bank. "Data: Container port traffic (TEU: 20 foot equivalent units)." 2014. <http://data.worldbank.org/indicator/IS.SHP.GOOD.TU>. "Twenty-foot equivalent unit," Wikipedia, Last modified Aug. 1, 2014, [http://en.wikipedia.org/wiki/Twenty-foot\\_equivalent\\_unit](http://en.wikipedia.org/wiki/Twenty-foot_equivalent_unit). World Shipping Council. "Facts About Serving US Export Commerce." February 2010.

[http://www.worldshipping.org/Facts\\_About\\_Serving\\_U\\_S\\_Export\\_Commerce\\_Feb\\_2010\\_-2-.pdf](http://www.worldshipping.org/Facts_About_Serving_U_S_Export_Commerce_Feb_2010_-2-.pdf).

<sup>61</sup> World Shipping Council. "Trade Statistics." 2014. <http://www.worldshipping.org/about-the-industry/global-trade/trade-statistics#1>.

<sup>62</sup> "Energy and Mineral Resources and Our Lives," Japan Bank For International Cooperation, accessed May 21, 2013, <http://www.jbic.go.jp/en/special/resource/001/index.html>.

relocation of the US Marine Corps Futenma Airfield on Okinawa and the construction of the Futenma relocation facility (FRF).<sup>63</sup>

## **Challenges in the Alliance: The US Marine Corps (USMC) Futenma Airfield and the Landfill/FRF**

USMC Futenma is one of seven UNC (United Nation Command) bases in Japan and functions as a rear airfield.<sup>64</sup> During the Korean War, UNC supported the Republic of Korea by providing core military and strategic directions; today, it continues to support the Korean Armistice Agreement.<sup>65</sup> While Futenma is cited to the region's security, over the decades, the question whether Futenma should stay in Ginowan City has been a persistent challenge to the alliance. (See table 3 for quick facts on Futenma.)

### *Key Drivers behind the Opposition: Six Categories*

Since Futenma's establishment, opposition to its presence has become increasingly complex and politicalized. To simplify, drivers of this opposition can be traced to six categories: first is the memories of the Battle of Okinawa, the bloodiest military campaign in the Pacific during World War II. About 50,000 Americans went missing and were killed; more than 200,000 Japanese and Okinawans perished.<sup>66</sup> The memories of the atrocities done to Okinawa civilians are hard to erase, particularly for the elderly.<sup>67</sup> People in this category are anti-war and anti-military and its establishments. Over time, this sentiment has been decreasing however.

The second is Okinawans' feeling of discrimination by mainland Japanese, and they would like to see mainlanders take on more responsibility for hosting US military bases. Some think, it is because of discrimination that the US continued to occupy Okinawa after the 1951 Treaty of San Francisco. Others argue that there are 377,960 sq.km of surface land on the

---

<sup>63</sup> "The Ministers stressed that the realignment of US forces in Japan is to ensure that the US presence maintains deterrence and provides for the capabilities to defend Japan and respond to regional contingencies, while remaining politically sustainable. In this context, the Ministers reiterated the ongoing mutual commitment to complete the agreements on the realignment of US forces in Japan, including constructing the Futenma Replacement Facility (FRF) and relocating US Marines to Guam, and welcomed the progress made in that regard." Ministry of Foreign Affairs of Japan. "Joint Statement of Security Consultative Committee: Toward a More Robust Alliance and Greater Shared Responsibilities." Oct. 3, 2013. <http://www.mofa.go.jp/mofaj/files/000016028.pdf>.

<sup>64</sup> There are seven US bases designated as U.N.C. bases in Japan: Yokota Air Force Base, Camp Zama, Army Command, Navy Fleet Activities Command, Yokosuka, Navy Fleet Activities Command, Sasebo, Kadena Air Force Base, Marine Corps Air Station, Futenma, and Navy Fleet Activities Command, Okinawa.

<sup>65</sup> "US Air Force Yokota Air Base. "UNC celebrates the 67th Anniversary of the United Nations in Japan." Last updated Nov. 28, 2012. <http://www.yokota.af.mil/news/story.asp?id=123327915>.

<sup>66</sup> "More people died during the Battle of Okinawa than all those killed during the atomic bombings of Hiroshima and Nagasaki. Casualties totaled more than 38,000 Americans wounded and 12,000 killed or missing, more than 107,000 Japanese and Okinawan conscripts killed, and perhaps 100,000 Okinawan civilians who perished in the battle." "According to US Army records during the planning phase of the operation, the assumption was that Okinawa was home to about 300,000 civilians. At the conclusion of hostilities around 196,000 civilians remained. However, US Army figures for the 82 day campaign showed a total figure of 142,058 civilian casualties, including those killed by artillery fire, air attacks and those who were pressed into service by the Japanese army." Global Security. "Military: Battle of Okinawa." Last modified May 7, 2011. <http://www.globalsecurity.org/military/facility/okinawa-battle.htm>.

<sup>67</sup> Taira, Koji. "The Battle of Okinawa in Japanese History Books." *Japan Policy Research Institute*, Working Paper No. 48 (1998). <http://www.jpri.org/publications/workingpapers/wp48.html>.

mainland and yet over 70 percent of US military bases are on an island with only 2,277 sqkm of surface land;<sup>68</sup> thus, the Okinawans are being treated unfairly. In January 2013, *Ryukyu Shimpō*, a Okinawa-based newspaper reported that a delegation of 30 citizens had asked Prime Minister Abe to abandon the idea of relocating Futenma within Okinawa Prefecture. Among the delegation were Onaga Takeshi, mayor of Naha, and Inamine Susumu, mayor of Nago. They presented a petition with signatures from mayors from 41 municipalities who are opposed to Futenma relocation within Okinawa Prefecture and the deployment of *Osprey* aircrafts. Moreover, they charged the GOJ and the US with “discrimination against the people of Okinawa,” and “treats the prefecture as occupied territory...”<sup>69</sup>

During interviews in 2012, when talking about issues in Okinawa, most Japanese began their comments about Okinawa by saying: “Okinawans are different.” A couple of Japanese mentioned the Chinese influence on Okinawa; one seemed to imply that Gov. Nakaima’s Chinese heritage is somehow connected with the opposition – again, stressing the point that Okinawans are not Japanese.<sup>70</sup> But, while acknowledge that there are cultural differences between Japanese and Okinawans, a majority of the interviewees care about public opinion in Okinawa; one interview stood out because this person stressed the importance of having “to consider the people in Okinawa.”

The third factor is the suspicion that the opposition is being funded by “outside sources.” During interviews, some believe that “outsiders,” that is “people other than Okinawans” are funding the opposition to Futenma and the US Marine Corps because they stand to gain from it. A few interviewees pointed to the importance of long-term monetary support, and the makeup of the protestors for this kind of opposition to survive. During a trip to Futenma, I witnessed a couple of small-scaled protests, about 10-20 people; a majority of the protestors were middle-aged or elderly women and men. They seemed well-dressed and well-organized. Another interviewee said that there is growing influence on the island from Taiwanese business owners. However, the notion that the opposition is well-funded by “outsiders” is based on speculation.

The fourth factor is the encroachment around Futenma that is causing operational and noise concerns in Ginowan City. Operationally, take-off and landing of aircraft at Futenma are risky for pilots and hazardous for residents. In 2003, then Secretary of Defense Donald Rumsfeld called Futenma “the world’s most dangerous air field,” and stated that Futenma needs to be closed because it is “an accident waiting to happen.” Okinawa Gov. Nakaima also said that

---

<sup>68</sup> Go Katono and Kenta Nozaki, “Okinawans decry discrimination by mainland Japanese,” *The Asahi Shimbun*, May 11, 2012, [http://ajw.asahi.com/article/behind\\_news/social\\_affairs/AJ201205110074](http://ajw.asahi.com/article/behind_news/social_affairs/AJ201205110074). And see Okinawa Peace Network of Los Angeles. “Treatment of Okinawans on the Mainland and Overseas.” [http://www.uchinanchu.org/uchinanchu/history\\_treatment.htm](http://www.uchinanchu.org/uchinanchu/history_treatment.htm).

<sup>69</sup> “Okinawan leaders hand a petition to Prime Minister Abe requesting the easing of the base-hosting burden,” *Ryukyu Shimpō*, Sept. 7, 2014, <http://english.ryukyushimpo.jp/2013/02/04/9180/>.

<sup>70</sup> “Chinese historical writings first mentioned the Ryukyus during the 6th-7th centuries (the Sui Dynasty)... Many Chinese moved to Ryukyu to serve the government or to engage in business during this period. The Chinese, during the Ming dynasty, sent from Fujian 36 Chinese families at the request of the Ryukyuan King to manage oceanic dealings in the kingdom in 1392 during the Hongwu Emperor’s reign. Many Ryukyuan officials were descended from these Chinese immigrants, being born in China or having Chinese grandfathers... In the early 17th century, the Ryukyuan Kingdom was conquered by the Satsuma-han of Kyūshū. The Satsuma domain kept the kingdom nominally alive because of the benefit from trade with China, although the Amami Archipelago came under the full control of Satsuma. During the Meiji period, the kingdom was formally abolished and Okinawa prefecture was established.” “Ryukyuan People,” Wikipedia, Last modified Aug. 21, 2014, [http://en.wikipedia.org/wiki/Ryukyuan\\_people](http://en.wikipedia.org/wiki/Ryukyuan_people).

Futenma is “a dangerous and flawed facility,” and that “it is virtually impossible to facilitate base operations in a stable environment.” In 2004, a Marine *CH-53D* helicopter crashed into Okinawa International University.

In addition to operational dangers, residents also complain about the level of aircraft noise. To address noise concerns, the 1997 SACO report called for the US to implement five noise abatement procedures, limitations on nighttime training operations, and aircraft noise countermeasures at Futenma. The US has complied and operational training was kept at a suboptimal level. But despite adjustments to flying hours,<sup>71</sup> OPG reports that noise emissions surrounding Futenma continue to exceed environmental standards. Consequently, residents have filed lawsuits for physical and mental suffering and to halt US nighttime flights.<sup>72</sup> In 2012, a lawsuit demanded 470 million yen (more than \$5 million) in compensation for local residents.<sup>73</sup>

The fifth factor is incidents and crimes by US military personnel. Over the years, the accumulation of soft and hard crimes involving US service members on Okinawa are fueling negative feelings toward Futenma and the US military among local residents. The local perception of US service members on Okinawa is that they are trouble makers. During interviews in 2012, the unpopularity of the US Marines and Futenma is evident in random, casual conversations with residents, namely, taxi-drivers and restaurant servers. According to them, while they appreciate the US force’s contributions, the costs are incidents and crimes. According to Okinawa Prefecture Government (OPG) statistics, between 1972 and 2011, there were roughly 1,609 documented incidents, 5,747 and 2,764 reported criminal and traffic cases committed by members of US military (see table 1)<sup>74</sup> – that is a total of 10,120 reported cases within a 39-year spin, on average 259 cases per year. When speaking about the US military, many residents cite the rape cases, namely the 1995 rape of an elementary school girl.

Sex crimes committed by USFJ are cause for serious concern. In February 2014, The Associated Press (AP) analyzed 1,000 documents on USFJ members who committed sex crimes in Japan. *If* documents received by the AP were *all* sex crimes committed by US service members between 2005 and 2013, then that is an average of 125 sex crimes per year; and more crimes were committed against another service member as opposed to civilians.<sup>75</sup> (For details see table 1.)

---

<sup>71</sup> GlobalSecurity.Org. “Okinawa, Japan.” Last modified May 4, 2013.  
<http://www.globalsecurity.org/military/facility/okinawa.htm>.

<sup>72</sup> “Futenma roar appeal dismissed by Supreme Court without issuing a flight ban,” *Ryukyu Shimpō* (Okinawa), Oct. 14, 2011,  
<http://english.ryukyushimpo.jp/2011/10/26/3410/>.

<sup>73</sup> “Residents near Futenma file base noise lawsuit,” *Japan Times*, Nov. 9, 2012,  
[http://www.japantimes.co.jp/news/2012/11/09/national/residents-near-futenma-file-base-noise-lawsuit/#.US\\_en\\_JyXxU](http://www.japantimes.co.jp/news/2012/11/09/national/residents-near-futenma-file-base-noise-lawsuit/#.US_en_JyXxU).

<sup>74</sup> Statistic by the OPG Regional Security Policy Division, Executive Office of the Governor in an informational brochure on US basing issues in Okinawa. Original data is compiled by the OPG Military Base Affairs Division and by the Okinawa Prefecture Police. These data can also be found on the official website of the Okinawa Prefecture. “The Number of Criminal Cases in which SOFA Status People have been Arrested.” Last modified Aug. 24, 2012.  
<http://www.pref.okinawa.jp/site/chijiko/kichitai/666.html>.

Also Okinawa Prefecture. “US Military Base in Okinawa.” Last modified April 15, 2014.  
<http://www.pref.okinawa.jp/site/chijiko/kichitai/25185.html>.

<sup>75</sup> According to the article, the 1,000 documents were DOD internal records obtained through the Freedom of Information Act (FOIA). This brings questions to whether, during 2005-2013, a total of 1,000 sex crimes were committed, or they were simply documents approved for release by the DOD and there could be more. See Yuri Kageyama and Richard Lardner, “Documents Reveal Chaotic Military Sex-Abuse Record,” Feb. 9, 2014, *The Associated Press*, <http://bigstory.ap.org/article/documents-reveal->

To put these numbers into perspective, compare Okinawa's crime statistics to three US major cities: San Diego, California, Phoenix, Arizona, and San Antonio, Texas. These cities share similar characteristics as Okinawa; they all have military installments, a similar population size, and surface area (km<sup>2</sup>). (See table 2 for comparisons on crime statistics reported in these US cities and in Okinawa.)

As table 2 illustrates, Okinawa reports lower number of crimes in comparison to San Diego, Phoenix, and San Antonio. According to statistics from the Okinawa Prefecture, within a 39-year span, US service members were reportedly involved in a total of 7,356 incident and criminal cases combined; that is roughly 188 cases per year. In comparison, in 2012 alone, 289, 263, and 172 rapes were reported in San Antonio, Phoenix, and San Diego, respectively; the total numbers of crimes reported were in the staggering numbers of 87,659, 67,849, and 36,096.<sup>76</sup>

While the number of crimes committed by USFJ in Okinawa is much lower than in cities like San Diego, Phoenix, and San Antonio, the impression from interviews in 2012 was that some residents continue to think US military personnel lack discipline. That said, there are those who support a US military presence, and feel Americans are being discriminated against by some locals because they are foreign.<sup>77</sup>

The sixth factor is the revenue generated by Futenma is not as attractive as it was before. Yoshikawa Yuki suggests in her 2012 *Nikkei Weekly* article that, base-related revenue has already been surpassed by tourism-revenue.<sup>78</sup> According to statistics compiled by the OPG, US base-related revenue was 15.5 percent of gross prefectural income in 1972 but has decreased to 5.3 percent in 2008. In comparison to revenue associated with US bases, in 1982 the percentage of tourism revenue had already surpassed base-related revenue; by 2008 the percentage of

---

chaotic-military-sex-abuse-record-2. "The number of sexual assault cases taken to courts-martial has grown steadily – from 42 percent in 2009 to 68 percent in 2012, according to DOD figures. In 2012, of the 238 service members convicted, 74 percent served time. That trend is not reflected in the Japan cases. Out of 473 sexual assault allegations within Navy and Marine Corps units, just 116, or 24 percent, ended up in courts-martial. In the Navy, one case in 2012 led to court-martial, compared to 13 in which commanders used non-judicial penalties instead." Also "AP Findings on US Military Sex Crimes in Japan," *The Associated Press*, Feb. 9, 2014, <http://bigstory.ap.org/article/ap-analysis-us-military-sex-crimes-japan>. "Of more than 620 serious sex-crime allegations against military personnel, at least 323 of the alleged victims also were in the military. Civilians were the accusers in 94 cases, but in nearly 200 cases the alleged victim's status was unclear. Among US military sexual assault reports worldwide in the 2011-12 fiscal year, 2,949 of the 3,604 victims were service members, according to the department's annual report to Congress on sexual assault in the military."

<sup>76</sup> Note that numbers from the US cities were probably committed by both military and civilian; nonetheless, we can infer that rapes committed by US military personnel are lower than the total number reported; crimes committed by US service members are lower than the total number reported. Because of the much higher numbers of rape and crime in the US than in Okinawa, we can assume that rapes and crimes committed by the US military alone in the US cities are higher than statistics reported in Okinawa.

<sup>77</sup> Justin McCurry, "Rice says sorry for US troop behavior on Okinawa as crimes shake alliance with Japan," *The Guardian*, Feb. 28, 2008, <http://www.theguardian.com/world/2008/feb/28/japan.usa>. "It's not right to portray all American soldiers as potential criminals," said Hiroshi Matayoshi, a retired cargo handler who worked at the biggest local air force base for 35 years. "They're a long way from home and miss their families, but many people here refuse to see them as human beings. They just see a uniform and think the worst." During a week-long research trip, I witnessed a taxi driver refuse service to a group of US servicemen. After being refused, a couple of soldiers shouted at the taxi driver and appeared aggressive.

<sup>78</sup> Yoshikawa, Yuki. 2012. "Listen to Okinawa." *The Nikkei Weekly Magazine* (summer): 46-47. In her article, Yoshikawa wrote, "In 1972, sightseeing revenue was \$90 million, while base-related revenue was \$316.7 million. In 2008 sightseeing revenue was \$4.1 billion, while base-related revenue was \$3.3 billion."

tourism revenue was 10.9 percent.<sup>79</sup> While the OPG statistics Division supports Yoshikawa's notion, however, revenue associated with US bases rose steadily between 1972 and 2010.<sup>80</sup> Nonetheless, opposition based on the revenue reasoning is choosing economic development over national security; or whichever yields the most income for stakeholders.

Opposition to the bases depends on perspective. Interviews show that opposition is multi-layered, and this report merely identifies six factors: the memories of the Battle of Okinawa; the feelings of discrimination by Japanese mainlanders; suspicions of outside influences; the noise and operational concerns due to encroachment around Futenma; crimes committed by US military personnel; and the fact that base-related revenue is not as attractive as in the 1970s. As complicated as these challenges are, the most vexing questions are: what is more important – national security or the economy and quality of life? Who decides – the government of the US, or Japan, or Okinawa? Which economic sector should benefit the most – the military or industry? To manage the Futenma question, one must first take a stand on each of these questions.

### **Addressing Futenma: The 1996 SACO Final Report and the US-Japan Roadmap for Realignment Implementation**

In November 1995, the US and Japan established a Special Action Committee on Okinawa (SACO) to reduce the burden of Okinawa. At the time, anger toward crimes committed by US military personnel had reached a boiling point: a 12-year old Japanese school girl was raped by three US service members. The news was widely covered, and the Americans were convicted and sentenced in a Japanese court.<sup>81</sup> Then SACO quickly followed which can be seen as designed to salvage the image of the US military.

The case also resulted in protests and sit-ins against the US military presence, and attracted high-level attention. A US Navy admiral apologized, and then “retired” after having misspoke;<sup>82</sup> the US ambassador to Japan Walter Mondale and Prime Minister Hashimoto Ryutaro made a joint-television announcement about closing Futenma, and transferring its

---

<sup>79</sup> Okinawa Prefecture Statistic Bureau. [沖縄県企画部統計課] “2014 Overview of Okinawa.” March 2014.

<http://www.pref.okinawa.jp/toukeika/youran/H26youran.pdf>. Also Okinawa Prefecture. “US Bases and Okinawa’s Economy.” <http://www.pref.okinawa.jp/site/chijiko/kichitai/documents/panf-1.pdf>.

<sup>80</sup> See statistics compiled by Okinawa Prefecture Statistic Bureau. [沖縄県企画部統計課] “2014 Overview of Okinawa.” March 2014. <http://www.pref.okinawa.jp/toukeika/youran/H26youran.pdf>.

<sup>81</sup> “Two of the servicemen – Pfc. Rod Rico Harp of the Marine Corps, from Griffin, Ga., and Seaman Marcus D. Gill of the Navy, from Woodville, Tex. – were sentenced to seven years in prison. The third man, Pfc. Kendrick M. Ledet of the Marines, from Waycross, Ga., was sentenced to 6 1/2 years. This case is an especially cruel one compared with similar incidents and therefore the fury it brought to the local community was quite large,” the three judges said.” Andrew Pollack, “3 US Servicemen Convicted Of Rape of Okinawa Girl,” *The New York Times*, March 7, 1996, <http://www.nytimes.com/1996/03/07/world/3-us-servicemen-convicted-of-rape-of-okinawa-girl.html>.

<sup>82</sup> “Fired admiral gives public apology,” *CNN*, Nov. 20, 1995, [http://www.cnn.com/WORLD/9511/macke\\_speaks/](http://www.cnn.com/WORLD/9511/macke_speaks/). And “Admiral Retires After Okinawa Rape Comment,” *Los Angeles Times*, Nov. 18, 1995, [http://articles.latimes.com/1995-11-18/news/mn-4681\\_1\\_richard-c-macke](http://articles.latimes.com/1995-11-18/news/mn-4681_1_richard-c-macke).



capabilities to other airfields in Japan.<sup>83</sup> According to the *New York Times*, Futenma Airfield was a major focus in Mondale's public announcement because it is symbolic of the US presence on Okinawa.

In addition to managing the tarnished image, SACO served another diplomatic purpose – a platform to strengthen US-Japan relations by finding solutions on a bilateral basis. Upon establishment, SACO was tasked to provide recommendations to the SCC on how to reduce the US military footprint and to realign its forces. In 1996, the SCC approved policy recommendations made by SACO; one of which was to relocate Futenma to a “sea-based facility” – known as the Futenma Relocation Facility (FRF).<sup>84</sup> To design and implement the policy, the Futenma Implementation Group (FIG), a bilateral working group was formed.<sup>85</sup> Subsequent to its formation, from 1996 to 2006, FIG debates were largely about location, design, and construction method of the FRF.

So, during 1997 to 2006, amidst public outcry following the 1995 rape incident, relations between all stakeholders – OPG, GOJ, and USG – were fairly cooperative. In 1997, Nago City Mayor Higa Tetsuya announced acceptance of the base plan. However, politics began influencing how the FRF was to be made; eventually, landfill prevailed over the mega-float idea due to strong political backing.<sup>86</sup> Based on interviews, it is business-as-usual for landfill to be the preferred technique for public works in Japan. In 1999, the US Marine Corps enacted new regulations in response to Okinawa Gov. Inamine Keiichi's call for the US military to minimize

---

<sup>83</sup> “Prime Minister Ryutaro Hashimoto and the American Ambassador to Japan, Walter F. Mondale, who made the announcement about Futenma in a joint news conference televised live across Japan, emphasized that virtually all of the functions of Futenma would be transferred to other bases in Japan. The number of American forces in Japan – about 47,000, plus about 13,000 assigned to ships with home ports in Japan – will be essentially unchanged. Other major American naval and air bases in Japan will not be affected, except for the return to America of a dozen Harrier attack jets. ‘This plan does not assume any reduction in force levels, or any reduction or degradation in the capacities or readiness of American forces to do what is required under our treaty,’ Mr. Mondale declared, referring to the United States-Japan Security Treaty.” “US Will Return Base in Okinawa,” *The New York Times*, April 13, 1996, <http://www.nytimes.com/1996/04/13/world/us-will-return-base-in-okinawa.html>. And “US apologetic over Okinawa rape,” CNN, Sept. 19, 1995, [http://www.cnn.com/WORLD/9509/japan\\_rape/](http://www.cnn.com/WORLD/9509/japan_rape/). And Hamilton, Robert V. “The Futenma Problem.” *Marine Corps Gazette*, Vol. 83, No. 4 (April 1999). [http://www.jpri.org/publications/critiques/critique\\_VI\\_5.html](http://www.jpri.org/publications/critiques/critique_VI_5.html).

<sup>84</sup> Ministry of Foreign Affairs of Japan. “The SACO Final Report.” Dec. 2, 1996. <http://www.mofa.go.jp/region/n-america/us/security/96saco1.html>. And Ministry of Foreign Affairs of Japan. “The SACO Final Report on Futenma Air Station (an Integral Part of the SACO Final Report).” Dec. 2, 1996. <http://www.mofa.go.jp/region/n-america/us/security/96saco2.html>.

<sup>85</sup> “FIG will recommend a candidate SBF area to the SCC as soon as possible and formulate a detailed implementation plan no later than December 1997. This plan will include completion of the following items: concept development and definition of operational requirements, technology performance specifications and construction method, site survey, environmental analysis, and final concept and site selection; the FIG will establish phases and schedules to achieve operational capabilities at each location, including facility design, construction, installation of required components, validation tests and suitability demonstrations, and transfer of operations to the new facility; the FIG will conduct periodic reviews and make decisions at significant milestones concerning SBF program feasibility.” Ministry of Foreign Affairs of Japan. “The SACO Final Report on Futenma Air Station (an Integral Part of the SACO Final Report).” Dec. 2, 1996. <http://www.mofa.go.jp/region/n-america/us/security/96saco2.html>.

<sup>86</sup> William L. Brooks, “The Politics of the Futenma Base Issue in Okinawa: Relocation Negotiations in 1995-1997, 2005-2006,” *Asia-Pacific Policy Paper Series No. 9* (2010), accessed May 21, 2013, [http://reisshauercenter.web.fc2.com/papers/brooks/okinawa\\_brooks.pdf](http://reisshauercenter.web.fc2.com/papers/brooks/okinawa_brooks.pdf). “With the unofficial selection of the waters off Nago City as the Futenma relocation site and a survey being planned, local politics began to insert itself into the squabble over the method of construction the new facility...In mid-November 1997, I was in Nago City...At a meeting with the leading people of Nago, they told me: ‘we don’t need any megafloats or QIP; we want land reclamation.’ “Their reasoning was that only contractors in northern Okinawa should participate in the construction of the Futenma replacement facility as a project for local development.”

off-base crimes and incidents; in the same year, the Nago City mayor accepted the FRF plan with basic conditions. In 2002, the US committed to reduce its military footprint in Okinawa in the Defense Policy Review Initiative, and that commitment was reiterated by the SCC in 2006. (See table 4 for more details.)

### *FRF/Landfill: The Henoko Plan*

It took time for the FRF/landfill to evolve into the policy commonly known as the Henoko plan. In 1997, SACO recommended a “sea-based facility”; in 2005, the SCC agreed on moving the FRF to off-shore of Camp Schwab in Nago City. According to the document, Japan and the US “will locate the FRF in an “L”-shaped configuration that combines the shoreline areas of Camp Schwab and adjacent water areas of Oura Bay.”<sup>87</sup>

In the following year, details from the 2005 agreement were elaborated in the 2006 US-Japan Roadmap for Realignment Implementation. In the Roadmap, the SCC approved the FRF to include “two runways aligned in a “V”-shape, each runway having a length of 1,600 meters plus two 100-meter overruns” in the Henoko and Oura Bays; its “construction method will be landfill” and that the US government “does not have a plan to operate fighter aircraft from this facility.”<sup>88</sup> Besides detailing the location, design, and construction method, the SCC also agreed to complete the FRF by 2014. But due to numerous obstacles, as of 2013, the Okinawa Consolidation Plan has pushed the FRF completion date to 2022 or later.<sup>89</sup> (See table 10.)

### *Hurdles: implementation of the Henoko plan – the legal process, the politics, and the crimes*

Today, the US-Japan alliance is again facing serious challenges; this time it is mostly because of setbacks on implementation. To proceed with the FRF construction, the GOJ needed two items from Okinawa: an environmental impact assessment (EIA) approved by the Okinawa governor, and a landfill permit. Therefore, much time, and resources were spent by the GOJ, in particular the Ministry of Defense (MOD), between 2006 and 2013 on acquiring those two items; meanwhile, the political situation and public opinion did not help speed up the process.

One of the major challenges in administering the FRF is the legal process of obtaining the EIA and the landfill permit. For about eight years, the EIA was rejected three separate times. In 2007, the Naha Defense Facility Defense Bureau submitted the EIA, but was declined by

---

<sup>87</sup> “Bearing such factors in mind, both sides will locate the FRF in an “L”-shaped configuration that combines the shoreline areas of Camp Schwab and adjacent water areas of Oura Bay. The runway portion of the facility will cross Henoko-saki, extending from Oura Bay into the water areas along the south shore of Camp Schwab. The lower section of the facility, oriented in a northeast-southwest direction will include a runway and overruns, with a total length of 1800 meters exclusive of seawalls. Hangers, maintenance, fuel supply pier and related infrastructure, and other aviation support activities required for the operation of the new facility will be located on the areas of the FRF to be constructed within Oura Bay. Furthermore, facilities in the Camp Schwab area will be reconfigured as necessary to accommodate the relocation of Futenma-related activities.” Ministry of Foreign Affairs of Japan. “The SACO Final Report.” Dec. 2, 1996. <http://www.mofa.go.jp/region/n-america/us/security/96saco1.html>.

<sup>88</sup> US Forces Japan. “United States – Japan Roadmap for Realignment Implementation.” May 1, 2006. <http://www.usfj.mil/Documents/UnitedStates-JapanRoadmapforRealignmentImplementation.pdf>.

<sup>89</sup> *Consolidation Plan for Facilities and Areas in Okinawa*, (Washington DC: US Department of Defense, April 2013). Available at <http://www.defense.gov/news/Okinawa%20Consolidation%20Plan.pdf>; Accessed May 21, 2013.

Okinawa Gov. Hirokazu Nakaima. In his statement, Nakaima expressed concerns over the “serious negative impact” that the FRF will have on residents around Camp Schwab and on “endangered dugongs.”<sup>90</sup> In 2009, the Ministry of Defense submitted another EIA; this time, it was accepted but rejected by the Gov. Nakaima. According to *Stars and Stripes*, the governor wanted a “more thorough evaluation.”<sup>91</sup>

In early 2012, the EIA was again rejected by the Okinawa governor, citing various items in the report to be inappropriate.<sup>92</sup> In December 2012, the GOJ prepared another EIA, but was pushed back. Some 621 plaintiffs went to court in Naha claiming that the GOJ’s approach to the EIA was flawed and sought compensation.<sup>93</sup> Progress was in the making: calls for another EIA were rejected by the Naha District Court in May 27, 2013<sup>94</sup> and by the Fukuoka High Court in May 2014.<sup>95</sup>

While MOD struggled with getting past the first step of the legal process, politics did not help. Between 2009 and 2012, politics in Tokyo and in Okinawa undermined MOD efforts. In 2009, the Japanese people wanted sweeping change and brought to power in Tokyo the Democratic Party of Japan (DPJ), the main opposition to the Liberal Democratic Party’s (LDP). Newly elected Prime Minister Hatoyama Yukio pledged to Okinawa that his Cabinet would “re-examine the Realignment Plan and other fundamental aspects of US Forces in Japan.”<sup>96</sup>

---

<sup>90</sup> The Naha Defense Facilities Administrative Bureau on Aug. 7 submitted to Okinawa Prefecture documents specifying the methods of environmental assessment for the construction of a new US base on the coastline of US Camp Schwab in Nago City to replace the US Marine Corps Futenma Station.” “The Okinawa Prefectural government which is requesting the central government to shift the construction site further offshore declined to accept the documents.” “Okinawa Governor Nakaima Kota expressed his regret at the submission of the document and said, “The prefectural government is holding off acceptance.” “The construction will exert a serious negative impact on the living conditions of residents around Camp Schwab and the rich environment in the area where endangered dugongs inhabit.” “Government forcibly submits new US base environmental assessment documents to Okinawa,” *Japan Press Weekly*, Aug. 8, 2007, <http://www.japan-press.co.jp/modules/news/index.php?id=5983>.

<sup>91</sup> “Okinawa Gov. Hirokazu Nakaima on Tuesday disapproved an environmental impact assessment report Japan’s Ministry of Defense conducted for a new US Marine Corps air field...He demanded a more thorough evaluation of how the new air facility would affect local communities and the surrounding environment.” Chiyomi Sumida, “Okinawa governor rejects Schwab impact report,” *Stars and Stripes*, Oct. 15, 2009, <http://www.stripes.com/news/okinawa-governor-rejects-schwab-impact-report-1.95578>.

<sup>92</sup> Sumida Chiyomi, “Okinawa governor rejects Schwab impact report,” *Stars and Stripes*, Oct. 15, 2009, <http://www.stripes.com/news/okinawa-governor-rejects-schwab-impact-report-1.95578>. Also “Okinawa governor: Plan to relocate Futenma to Henoko ‘impossible’,” *The Asahi Shimbun*, Feb. 21, 2012, [http://ajw.asahi.com/article/behind\\_news/politics/AJ201202210044](http://ajw.asahi.com/article/behind_news/politics/AJ201202210044).

<sup>93</sup> “Naha court rejects need for new environmental assessment for Futenma relocation,” *Ryukyu Shimpo* (Okinawa), Feb. 21, 2013. <http://english.ryukyushimpo.jp/2013/03/06/9555/>.

<sup>94</sup> “Court rejects Futenma base assessment appeal,” *The Japan Times*, May 27, 2014, <http://www.japantimes.co.jp/news/2014/05/27/national/crime-legal/court-rejects-futenma-base-assessment-appeal/#.U-mCIWPCdy8>.

<sup>95</sup> “The Fukuoka High Court on Tuesday turned down an appeal by local residents who wanted to overturn a lower court ruling that rejected their lawsuit demanding the central government conduct another environmental impact assessment of the Futenma base relocation in Okinawa Prefecture. A three-judge panel at the high court’s Naha branch led by Judge Hidekazu Imaizumi upheld last year’s ruling by the Naha District Court that also rejected the plaintiffs’ demand for ¥10,000 in damages per plaintiff.” “Court rejects Futenma base assessment appeal,” *The Japan Times*, May 27, 2014, [http://www.japantimes.co.jp/news/2014/05/27/national/crime-legal/court-rejects-futenma-base-assessment-appeal/#.U\\_AXIWPCfm0](http://www.japantimes.co.jp/news/2014/05/27/national/crime-legal/court-rejects-futenma-base-assessment-appeal/#.U_AXIWPCfm0).

<sup>96</sup> According to materials obtained from OPG on “Background on the MCAS Futenma Issue.”

Hatoyama's stance on moving Futenma outside Okinawa and his intention to reevaluate the Roadmap, created tension in the US-Japan alliance and confusion for FRF managers.

In addition to Hatoyama's attempt to reverse the FRF agreement, Okinawa and the US were also back-tracking. Despite reconfirming the 2006 Roadmap, more entities joined in opposing it: Nago City Mayor Inamine Susumu, the Okinawa Prefectural Assembly, and the Okinawa Citizen's Rally. In 2011, US senators issued a joint statement calling for the Roadmap to be reexamined, and proposed that part of Futenma's capabilities be integrated into Kadena Airfield;<sup>97</sup> in 2012, the US Congress invoked the FY2012 National Defense Authorization Act to impose funding restrictions on realignment efforts.<sup>98</sup> (See table 4.)

Also in 2012, the US proposed "delinking" in an effort to move forward the FRF. In a public statement by Pentagon Press Secretary George Little, in the joint defense posture statement the US and Japan "have agreed to delink the movement of Marines to Guam and resulting land returns south of [Kadena Air Base, home to the US Air Force's 18th Wing] from progress on the Futenma replacement facility."<sup>99</sup> However, interviews showed that, the "delink" did not work because it did not address drivers behind the opposition in Okinawa.

In addition to moving through the legal process and the politics, another major challenge was the accumulating effect of crimes committed by US forces. As mentioned, statistically speaking, Okinawa reports lower crimes rates that are associated with US military than in San Diego, Phoenix, and San Antonio. That said, crimes committed by US service members are not easily forgotten on foreign land. In 2008, a member of the US Marine Corps was arrested for allegedly raping a 14-year-old girl – a crime that reminds residents of the 1995 gang rape. Furthermore, a series of driving while under influence (DUI) related incidents prompted the Air Force to enact curfews on the island. Each time a crime is committed, it adds to residents' long memories of US misconduct since the end of World War II, which makes it difficult to soothe public anger.

---

<sup>97</sup> "The Senate Armed Services Committee on Thursday passed a bill banning spending for the move to Guam until the Marines study the plan all over again. Chairman Sen. Carl Levin, D-Mich., Ranking Member Sen. John McCain, R.-Ariz., and Sen. Jim Webb, D-Va., have led a roadblock effort, inserting language that would have the DOD consider alternatives to new facilities at Camp Schwab, moving some Kadena Air Base assets off of the island and moving some Futenma assets to Kadena." Kevin Baron, "US, Japan moving forward, but no hard deadline for Futenma," *Stars and Stripes*, June 21, 2011, <http://www.stripes.com/news/u-s-japan-moving-forward-but-no-hard-deadline-for-futenma-1.147054>. And Ito Hiroshi, "Senator praises delinking Futenma from Guam move of Marines," *The Asahi Shimbun*, March 20, 2012, [http://ajw.asahi.com/article/behind\\_news/politics/AJ201203200015](http://ajw.asahi.com/article/behind_news/politics/AJ201203200015). "Webb is chairman of the East Asian and Pacific Affairs Subcommittee under the Senate Foreign Relations Committee as well as a member of the Senate Armed Services Committee. Last year, Webb and two other Armed Services Committee members issued a proposal that called for integrating functions of the US Marine Corps Air Station Futenma at Kadena Air Base, also in Okinawa Prefecture, rather than relocating Futenma to the Henoko district of Nago, Okinawa Prefecture." And Hornung, Jeffrey W. "Questioning the Senators' Proposal on US Force Realignment in Japan." *CSIS Japan Chair Platform* (June 21, 2011). [http://csis.org/files/publication/110621\\_Hornung\\_SenatePropForceRealignment\\_JapanPlatform.pdf](http://csis.org/files/publication/110621_Hornung_SenatePropForceRealignment_JapanPlatform.pdf).

<sup>98</sup> Led by the US Senate Armed Services Committee, Congress imposed funding restrictions on the Department of Defense's realignment efforts until the Department fulfills legislative requirements. Hornung, Jeffrey W. "Questioning the Senators' Proposal on US Force Realignment in Japan." *CSIS Japan Chair Platform* (June 21, 2011). [http://csis.org/files/publication/110621\\_Hornung\\_SenatePropForceRealignment\\_JapanPlatform.pdf](http://csis.org/files/publication/110621_Hornung_SenatePropForceRealignment_JapanPlatform.pdf).

<sup>99</sup> US Department of Defense. "US, Japan Release Joint Defense Posture Statement." Feb. 8, 2012. <http://www.defense.gov/News/NewsArticle.aspx?ID=67112>.

In 2012, Tokyo interviews suggested the FRF implementation stalled for 17 years as a result of practical challenges such as its design, location, and construction; human challenges such as politics, and conditions behind the opposition. There was also speculation – which will be hard to prove – that corruption might exist during the period of 1997-1999 and 2006-2013 because so many resources were poured into Okinawa to get approval. On December 25, 2013, Okinawa Gov. Nakaima accepted Prime Minister Abe’s offer, and granted the landfill permit.<sup>100</sup> (See table 13.) In August 2014, the US Marine Corps proposed another EIA for the inland area of Nago City – a process that will further impede the FRF construction, and it was rejected by Tokyo.<sup>101</sup>

### **Future Challenges: The Implications of Economic Development in Okinawa**

Okinawa’s economy is expanding, and it is poised for more growth. In the early 2000s, special trade and economic zones were established on Okinawa as part of an overall growth strategy;<sup>102</sup> tax incentives have been in place to make the island more attractive to companies. Based on interviews in 2012, this strategy is paying off. According to METI statistics, between 2002 and 2010, the island more than doubled its number of industries; among those were research and development (R&D), information and technology, communications, and financial companies. Specialized science and technology (S&T) institutions are also on the rise. (See figure 1 for location of those sectors.) In the IT-related sector alone, Okinawa saw a surge of more than 20,000 jobs created. (See figure 2.<sup>103</sup>)

---

<sup>100</sup> “During a meeting at the prime minister’s office, Abe also told Nakaima that the central government will pump about ¥300 billion a year into the Okinawa economy until fiscal 2021 and try to move some training operations of the *Osprey* tilt-rotor aircraft outside the prefecture.” Reiji Yoshida, “Nakaima cuts deal with Abe,” *The Japan Times*, Dec. 25, 2013, [http://www.japantimes.co.jp/news/2013/12/25/national/nakaima-cuts-deal-with-abe/#.U\\_FcEmPCfm0](http://www.japantimes.co.jp/news/2013/12/25/national/nakaima-cuts-deal-with-abe/#.U_FcEmPCfm0).

<sup>101</sup> “The US military apparently feared an environmental impact assessment only on sea areas might draw further criticism on the controversial project. But the Japanese government rejected the proposal, according to the document recently obtained by Kyodo News. “If no environmental impact assessment is complete US Marine Corps may be held accountable for unintended consequences to environment and habitat as a result of construction and future operations,” read the document, titled “Review Comments” for the facility to replace the US Marine Corps Air Station Futenma.” “US wanted impact assessment for inland area at Futenma transfer site,” *The Japan Times*, Aug. 13, 2014, [http://www.japantimes.co.jp/news/2014/08/13/national/u-s-wanted-impact-assessment-inland-area-futenma-transfer-site/#.U\\_AXB2PCfm1](http://www.japantimes.co.jp/news/2014/08/13/national/u-s-wanted-impact-assessment-inland-area-futenma-transfer-site/#.U_AXB2PCfm1).

<sup>102</sup> Yohei Matsuo and Jun Yamazaki, “Japan’s special zone scheme: Third time lucky?” *Nikkei Asian Review*, May 20, 2014, <http://asia.nikkei.com/Politics-Economy/Policy-Politics/Japan-s-special-zone-scheme-Third-time-lucky>.

<sup>103</sup> Between 1990 and 2001, job numbers remained below 5,000; since 2002, IT-related jobs are increasing. As of 2010, 20,212 jobs are related to information services, call centers, content and software developments.

Figure 1: Major Venture Companies, Research Institutions and Support Organizations in Okinawa

沖縄の主なベンチャー企業・研究機関及び支援機関等

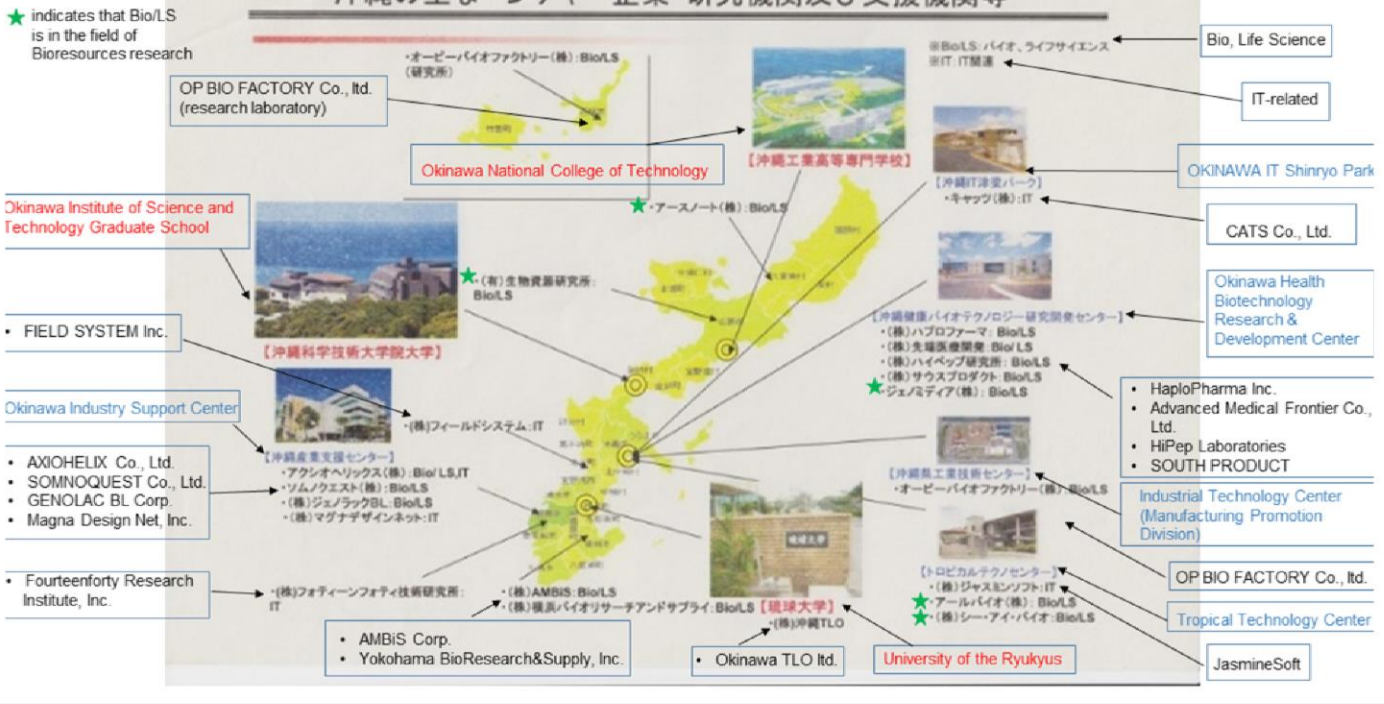
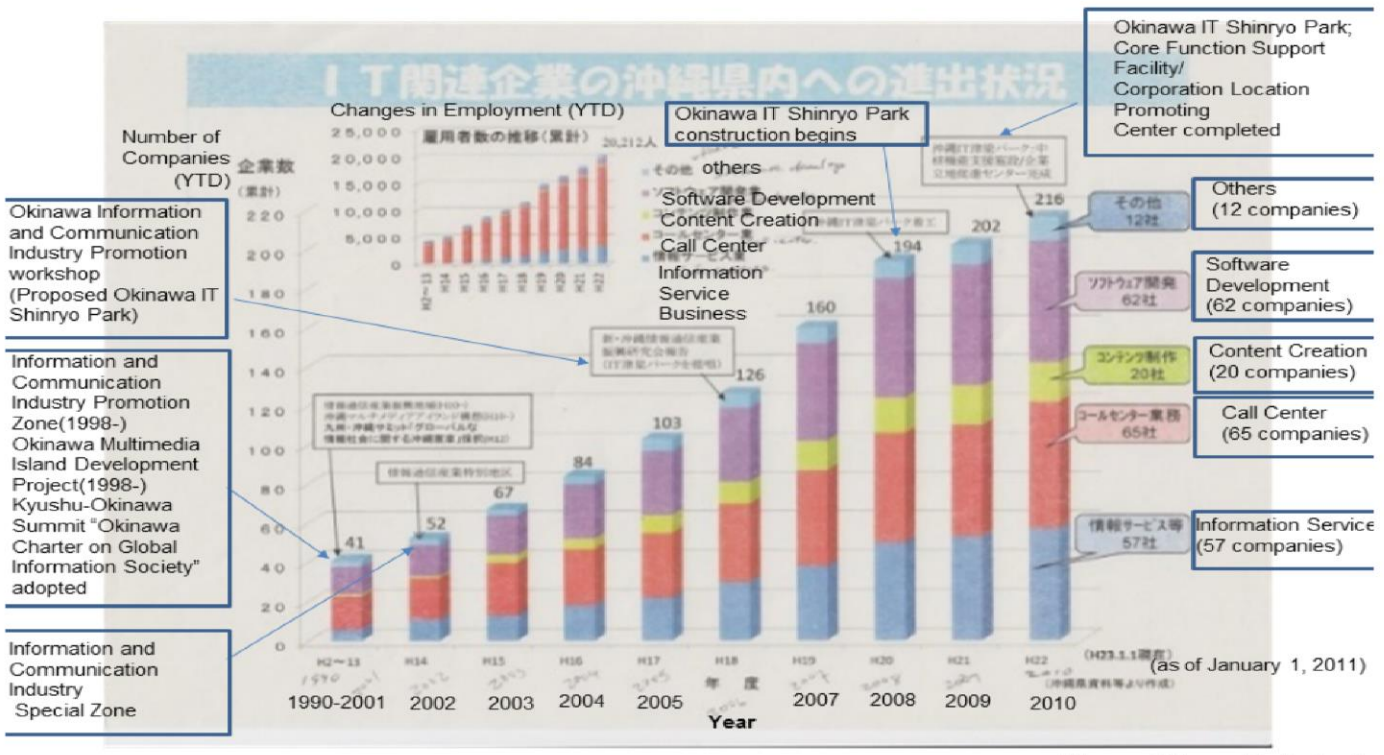


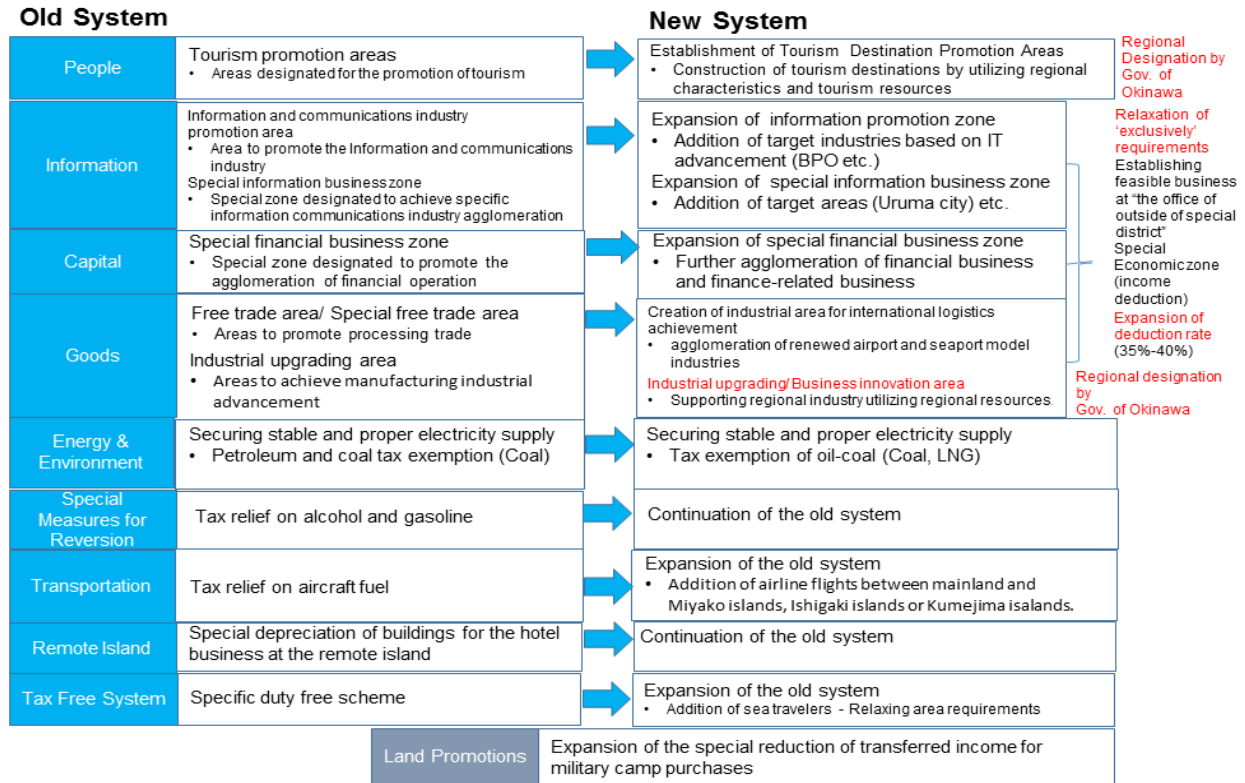
Figure 2: Business Growth in the IT-Related Industry in Okinawa





As a result of special economic zones and labor market conditions, additional growth is expected in Okinawa. New incentives have been targeting sectors that have been relocating to Okinawa (See figure 3). For example, special tax incentives apply to the IT and the financial sectors and, due to labor market conditions, businesses can enjoy higher and longer productivity at a lower wage scale.<sup>104</sup>

**Figure 3: Special Measures for the Promotion and Development of Okinawa**



*Economic implications at Nago City: population increase and possible encroachment*

As part of special economic zones in Okinawa, Nago City is positioning for additional growth. It offers special tax incentives for the financial sector, and they have: 1) attracted 14 firms to the city; 2) created more than 555 jobs as of 2011; 3) prompted the city to build institutions to train financial professionals.

<sup>104</sup> “Okinawa also has the youngest workforce in Japan, a workforce that is actually still growing, thanks to a robust birthrate. Okinawa also has the lowest wage scales, low commercial property rates and a range of tax incentives and subsidies for potential investors and employers”; and “Okinawa has established the first and so far only Special Free Trade Zone in all of Japan. Various tax incentives apply to, not only the Special Free Trade Zone, but the Information and Communications Industry Promotion Zone, Special Information and Communications Industry Zone and Financial Businesses Promotion Zone as well. These incentives include exemptions on the payment of national and local taxes. There are other incentives only available in Okinawa, including subsidies to promote the employment of Okinawa youth and support measures to reduce domestic and overseas communication costs.” Consulate General of the United States Naha Japan. “Promotion and Development.” <http://naha.usconsulate.gov/www7000.html>.

Nago's past economic performance and future potential can harm the future FRF, namely because of population growth. In general, Okinawa Prefecture is growing. According to OPG Statistics Division, from 2006 to 2012, population increased from about 1,368,000 to 1,420,000 people; with a majority of people between the age of 15 and 64. As a result of job and education opportunities in Nago, more people are moving to and, are living in Nago. If this trend continues, Nago is moving toward becoming the next Ginowan City.

Part of the problem with Futenma being in Ginowan<sup>105</sup> is a result of population growth. Futenma brought job and business opportunities to Ginowan, and population has grown as a result. But schools, residential, and commercial areas have also started to encroach on the airbase. The people who live and work in Ginowan want a better quality of life, i.e., less noise, and less military-related incidents around the airfield. Therefore, it is clear that as economic incentives attract businesses, population will increase; as people's incomes increase, they will want better quality of life – This is a trend that will apply to Nago in the future.

### **Alternatives to Henoko**

Finding an alternative to the US-Japan predicaments regarding Futenma and the FRF is extremely difficult. There is a general feeling of exhaustion and frustration on the topic because so many effects have been made to find *the* solution. Most say that all options have already been examined and Henoko is the only way;<sup>106</sup> a few say “why don't you ask the US Marines?”; and others say that the MOD failed for 17 years because they did not properly observe the political culture in Okinawa. As one interviewee concluded “there isn't a magic bullet to this.”

#### *The Katsuren Solution*

Amongst the many alternatives, Dr. Robert Eldridge suggests the “Katsuren” solution.<sup>107</sup> (See figure 4.) On June 2006, Dr. Eldridge published “The Roadmap to Nowhere: Explaining the Inability to Implement US Base Realignment in Okinawa” in the US-Japan Alliance Affairs Series. In his paper, Dr. Eldridge proposed that the FRF be built in the Katsuren Peninsula (the

---

<sup>105</sup> Ginowan City has an area of 19.7 km<sup>2</sup>, and a population of 94,139 as of 2013. Referenced Okinawa Prefecture Statistic Bureau. [沖縄県企画部統計課] “2014 Overview of Okinawa.” March 2014. <http://www.pref.okinawa.jp/toukeika/youran/H26youran.pdf>.

<sup>106</sup> “Numerous sites were considered: Kadena (merging some Marine functions from Futenma with those of the USAF base there), other Okinawan islands such as Shimoji (where there was a civil airport with a 3,000 meter runway currently used for pilot training) or Iejima, (a smaller airfield used by Marines), relatively near but outside Okinawan prefectural boundaries islands such as Tokuno (with a little used 2,000 meter runway airport) or Mage islands, in Kagoshima prefecture.” Gavan McCormack. “Ampo's Troubled 50<sup>th</sup>: Hatoyama's Abortive Rebellion, Okinawa's Mounting Resistance and the US-Japan Relationship (part 3).” *The Asia-Pacific Journal: Japan Focus*, 22-5-10, May 31, 2010. <http://www.japanfocus.org/-gavan-mccormack/3367>. These islands were discussed in author interviews in 2012, especially the possibility of relocating Futenma to Shimoji island.

<sup>107</sup> In 2005 Dr. Robert Eldridge was Associate Professor at the School of International Public Policy, Osaka University, and was also Director at US-Japan Alliance Affairs Division, Center for International Security Studies and Policy. Prior to the 2006 publication, he presented the Katsuren concept to the American Chamber of Commerce in Okinawa.



White Beach area), which is located in the Eastern-Central part of Okinawa, and list its associated benefits.

**Figure 4: One plausible idea: The Katsuren solution. (Source: Ryukyu Shimpo)**

The Landfill Plan for the Relocation of USMC Futenma Air Station off of the Katsuren Island



First, Eldridge argued that Katsuren is ideal because it is politically feasible. The FRF is to be a US-Japan joint facility, which decrease the number of facilities exclusively used by the US military. Moreover, it streamlines functions at Kinser, Futenma, and the Naha military port; it brings together facilities in the White Beach, Hansen, and Schwab area.

Second, Eldridge believes the environmental impact is small because the area has no dugong sightings and no live coral; therefore, this plan should be environmentally sound, pending the official EIA.

Third, Katsuren is operationally feasible, because the offshore location means lower noise levels and less dangers posed to nearby residents – which allows the USFJ to operate and train at maximum level. Finally, fourth, Eldridge argues it will take less time to build the Katsuren than Henoko, which will take approximately 3 years to reclaim land and 3 years to build the runways.

Like Henoko, the Katsuren plan has attracted supporters and oppositions. Amongst supporters is Kerry Gershaneck, former Senior Associate at Pacific Forum CSIS, and former senior US Marine Corps Public Affairs Officer (PAO) in the US Pacific and Central Commands. Writing in 2013 article, Gershaneck argued that the plan would be suitable because of its location and, it will duplicate the original Futenma capability, with its two 3,600 meter-long runways.<sup>108</sup>

<sup>108</sup> Gershaneck, Kerry. "Re-thinking Futenma, Revitalizing the Alliance." *PacNet*, No. 1A (2013). <http://csis.org/files/publication/Pac131A.pdf>.

However, Okinawa-based media criticize the idea saying: 1) it “makes no military sense” because the proposed runways are too long, and it would change the plan from a Heliport to a FRF that can accommodate fixed-wing aircraft; 2) the Katsuren plan will take 20 years to complete. This includes land reclamation, building bridges and the proposed three runways.<sup>109</sup> Interestingly, in Eldridge’s 2006 paper he estimated it would take six years to complete construction, and he proposed two runways, not three. In the end, the idea did not survive.<sup>110</sup> Interviews in 2012 made clear that the concept was not able to garner enough political support to move forward.

### *The Kadena idea*

This plan calls for relocating resources from Futenma to Kadena Air Base, and “dispersing a part of Air Force assets now at Kadena to Andersen Air Base in Guam and/or other locations in Japan.”<sup>111</sup> It was first discussed by Japanese Foreign Minister Okada Katsuya in 2009.<sup>112</sup> It was reintroduced by US senators who found the 2006 accord to be “unrealistic,” “unworkable,” and “unaffordable.” In 2011, Senators Carl Levin, John McCain, and Jim Webb called for a reexamination of the Henoko plan, and unveiled the integration concept that they believe could save taxpayer billions, because money will not be spent on building new USMC facilities.

Like Henoko, there is opposition from both the military and residents. First, the plan harms military-civilian relations and it exacerbate frustrations over noise. The announcement of the Futenma-Kadena merger sparked outcry from local residents. At a 2011 town hall meeting, the Trilateral Liason Council, which consists of “mayors of Okinawa City, Chatan and Kadena Town and the chair people of their three assemblies, namely the group of six” declared their

---

<sup>109</sup> Peace Philosophy Centre. “No Longer “Relocation” - An Idea of a Massive Artificial Island with Three Runways over 3,000 meters もう「移設」とはとても呼べない。” March 17, 2010. <http://peacephilosophy.blogspot.com/2010/03/no-longer-relocation-idea-of-massive.html>; and “勝連沖案のとんでもなさ,” on 目取真俊 (めどるましゅん) official website, accessed Sept. 7, 2014, <http://blog.goo.ne.jp/awamori777/e/74317ee41418daf8ae8b84d09fca10ef>. The article cites Medoruma Shun and “sharply criticizes this “outrageous” plan makes no military sense. Osprey (V-22) and helicopters (the kind of aircrafts that were planned to be based in the V-shape Henoko runway plan) do not need such long runways. He wonders if there is a plan to base B52s.” And Gavan McCormack. “Ampo’s Troubled 50<sup>th</sup>: Hatoyama’s Abortive Rebellion, Okinawa’s Mounting Resistance and the US-Japan Relationship (part 3).” *The Asia-Pacific Journal: Japan Focus*, 22-5-10, May 31, 2010. <http://www.japanfocus.org/-gavan-mccormack/3367>. The website also claims that Katsuren will be building a total of three runways (one 3,000-long runway, and two 3,600 meter-long runways) when in Eldridge wrote that the plan contains two 3,600 meter-long runways.

<sup>110</sup> Eldridge’s idea that landfill should come from Okinawa’s inland area, not China, may have been incorporated. “The Okinawa Defense Bureau has said sand and soil from the inland area will be extracted as it will be used for landfill work.” See “US wanted impact assessment for inland area at Futenma transfer site,” *The Japan Times*, Aug. 13, 2014, [http://www.japantimes.co.jp/news/2014/08/13/national/u-s-wanted-impact-assessment-inland-area-futenma-transfer-site/#.U\\_Q0IGPCfm0](http://www.japantimes.co.jp/news/2014/08/13/national/u-s-wanted-impact-assessment-inland-area-futenma-transfer-site/#.U_Q0IGPCfm0).

<sup>111</sup> Carl Levin US Senator Michigan. “Senators Levin, McCain, Webb Call for Re-Examination of Military Basing Plans in East Asia.” May 11, 2011. <http://www.levin.senate.gov/newsroom/press/release/senators-levin-mccain-webb-call-for-re-examination-of-military-basing-plans-in-east-asia/?section=alltypes>. And Hiroshi Ito, “Senator praises delinking Futenma from Guam move of Marines,” *The Asahi Shimbun*, March 20, 2012, [http://ajw.asahi.com/article/behind\\_news/politics/AJ201203200015](http://ajw.asahi.com/article/behind_news/politics/AJ201203200015).

<sup>112</sup> “No Kadena switch for Futenma, Okada says,” *The Japan Times*, Dec. 6, 2009, [http://www.japantimes.co.jp/news/2009/12/06/national/no-kadena-switch-for-futenma-okada-says/#.U\\_Q67GPCfm0](http://www.japantimes.co.jp/news/2009/12/06/national/no-kadena-switch-for-futenma-okada-says/#.U_Q67GPCfm0). And “Okada visits; presses for Kadena-Futenma solution,” *Weekly Japan Update*, Nov. 19, 2009. <http://www.japanupdate.com/archive/?id=9931>.

strong disapproval of the idea, citing that it will add to the noise problem at Kadena.<sup>113</sup> Interviews in 2012 revealed that residents do not want the Marines at Kadena because they fear that accidents and crime will increase.

Moreover, while the idea may be cost effective, picking apart Futenma, a UNC rear command air base, is not operationally and culturally feasible. The Futenma-Kadena merger was rejected in the 1990s by the US because it was not operationally sound; according to Geoff Morrell, a Pentagon spokesman, in 2009 the military insists that operations with fundamental differences cannot be consolidated.<sup>114</sup> Moreover, the military underscored cultural differences in the Air Force and the Marines, suggesting the two services will clash if housed at the same facility. Interestingly, interviews in 2012 revealed the US military has that same mentality. One person was frank saying, “The Air Force people do not want the Marines at Kadena.” In the end, the idea of a union between the two services is dropped.

### **The Mega-Float Concept: Refreshing An Old Idea**

The mega-float is technology that makes artificial land at sea. The construction process involve piecing together very large dry and wet welding that can function as land on water. Five steps are involved in constructing the mega-float: fabrication, towing, installation, mooring and assembling; steps are repeated until the desired size is reached. This paper presents the mega-float technology by reflecting on the history of its use and rejections; it then illustrates how the technology can be utilized in the 21<sup>st</sup> century and offers ideas on how the mega-float can add value to the FRF.

#### *Assembling the mega-float: the five-step process*

Step one is concocting mega-float units by specialized workers and equipment at shipyards. The units can be as small as 300 meters-long, 60 meters-wide and 2 meters-thick and it can be assembled into any desired size. Step two is towing the fabricated units to the construction site by tugboats. Step three is installing a mooring device, called the dolphin, by piling it to seabed to secure the floating units in position. The dolphin is a jack steel structure made up of NSSC270, an anti-corrosion technology that involves wrapping thin film lining seawater-resistant stainless steels around steel tubes.<sup>115</sup> According to its manufacturer, Nippon

---

<sup>113</sup> “Three municipalities around Kadena Air Base united in their strong opposition to the integration plan with Futenma,” *Ryukyū Shimpō*, May 27, 2011, <http://english.ryukyushimpo.jp/2011/05/27/712/>.

<sup>114</sup> “The Kadena consolidation concept had been considered more than a decade ago, and ruled to not be an operationally sound concept by the American military leadership. Today, the military reiterates its belief the two military services could not co-exist on Kadena. “Operationally unworkable” is the way Geoff Morrell, a Pentagon spokesman, described the idea earlier this month, explaining how the operations could not be consolidated and do everything needed to provide security for Japan.” See “Okada visits; presses for Kadena-Futenma solution,” *Weekly Japan Update*, Nov. 19, 2009. <http://www.japanupdate.com/archive/?id=9931>.

<sup>115</sup> “...NSSC270 manufactured by Nippon Steel & Sumikin Stainless Steel Corporation were used to prevent the corrosion of the columns from the jacket sea surface area to the part over the sea. The seawater-resistant stainless steel thin-film lining construction anti-corrosion technology of Nippon Steel & Sumitomo Metal Engineering is a method of wrapping salt-resistant stainless steel around structural steel tubes. For the corrosion resistance of the steel structure components of the pier, an organic protective coating provides a short lifespan and increases the cost of re-coating. On the other hand, the stainless lining construction of NSSMC has a longer life than organic protective coating and is excellent in corrosion resistance and low life cycle cost.” Referenced official website of Nippon Steel and Sumitomo Metal Corporation. “New Runway at Haneda Airport.” [http://www.nssmc.com/en/product/use/case/artificial\\_island/haneda.html](http://www.nssmc.com/en/product/use/case/artificial_island/haneda.html).

Steel & Sumikin Stainless Steel Corporation, this technology gives dolphins a longer life-span at lower cost over the old method of preventing corrosion by using organic protective coating. To further prevent damage from corrosion, titanium cover plates are installed to the bottom and the side surfaces. A cover plate is 12 meters-long, 1 meter-wide, and 35 millimeters-thick. These light-weight plates are corrosion and typhoon resistant, according to Nippon Steel & Sumitomo Metal.<sup>116</sup>

Step four is mooring and assembling – another highly technical stage. After the dolphin is installed, the first unit on site is moored to it; then, following units can be assembled at sea. To join floating units at sea, drifting forces waves and currents are taken into account. Furthermore, depending on the depth of water the mega-structure is being built, construction of a breakwater maybe needed to ensure that the mega-float is wave-resistant.<sup>117</sup>

Steps one through four are then repeated until the desired size is reached. There is no weight limitation on the number and types of structures to be built. Essentially, the larger the mega-structure is, the more dolphins needed to position the fabricated units. (See tables 9 and 11.)

The mega-float technology has been examined, proven, and applied to a variety of projects around the world. Imagination is the only limit on how the mega-float can be applied; it needs visionaries to give it life.

### *History of the mega-float*

Very large floating structures have a variety of functions, and the technology has served both military and civilian purposes. As early as 5<sup>th</sup> century B.C., King Xerxes of Persia built pontoon bridges across the Hellespont to aid his invasion of Greece. During World War II, the US Navy Civil Engineers Corp, the “Seabees” utilized classic pontoons, also known as “magic boxes,” for constructing causeways, piers, and other structures; in 1943, it constructed a floating airport that was 1,810 feet long and 272 feet wide using 10,920 pontoons.<sup>118</sup>

---

<sup>116</sup> “The titanium cover plates have a panel structure with a 1 m width, 12 m length, and 35 mm thickness, manufactured by sandwiching inflammable foam material between an outer titanium sheet and an inner coated steel plate. The construction using this cover plate is resistant to typhoons and is lightweight, and shows high quake resistance due to its unique structure. By introducing a dehumidifying system to the interior void covered with highly corrosion resistant titanium cover plates to prevent condensation, long-term corrosion resistance was achieved for the jack steel structure under the tough and corrosive seawater environment, enabling a vast reduction in maintenance costs.” Referenced official website of Nippon Steel and Sumitomo Metal Corporation. “New Runway at Haneda Airport.” [http://www.nssmc.com/en/product/use/case/artificial\\_island/haneda.html](http://www.nssmc.com/en/product/use/case/artificial_island/haneda.html); and Nippon Steel and Sumitomo Metal Corporation. “Titanium cover plate.” [http://www.nssmc.com/en/product/process/Linearity\\_steel\\_sheet\\_pile.html](http://www.nssmc.com/en/product/process/Linearity_steel_sheet_pile.html).

<sup>117</sup> Suzuki, Hideyuki. “Overview of Megafloat: Concept, design, criteria, analysis, and design.” *Marine Structures* 18 (2005): 111–132. <http://202.114.89.60/resource/pdf/374.pdf>.

<sup>118</sup> Naval History and Heritage Command. “Seabee History: Formation of the Seabees and World War II.” <http://www.history.navy.mil/faqs/faq67-3.htm>.

Watanabe E., C.M. Wang, T. Utsunomiya, and T. Moan. “Very Large Floating Structures: Applications, Analysis and Design.” *Centre for Offshore Research and Engineering National University of Singapore*, No. 2004-02. <http://www.eng.nus.edu.sg/core/Report%20200402.pdf>.

The idea of building floating air stations across the Atlantic for civilian use emerged in 1913. The Canadian inventor Edward Armstrong proposed the notion of “Seadromes.” Armstrong envisioned building eight Seadromes, from New York to England, with each Seadrome hundreds of miles apart for airplanes to land, refuel, and takeoff.<sup>119</sup> The *New York Times* covered his demonstration in 1929 with the headline “Seadrome model gets test today.” While Armstrong was unable to sell his vision, his technology paved the way for the development of modern semi-submersible offshore oil rigs in the 1950s.

During the mid- to late-20<sup>th</sup> century, the era of ocean space utilization began with the convergence of shipbuilding technology and architecture. As a result, mega-float technology began to flourish, but mainly for industrial and commercial use. In 1971, the University of Hawaii pioneered the first floating city project. In 1973, a floating airport was proposed to construct part of the Kansai International Airport but was rejected. In 1975, the Aquapolis, a large semi-submersible floating city, was constructed for the Okinawa International Ocean Exhibition. In 1976, Hong Kong established the Jumbo Floating Restaurant in the Aberdeen Harbor. In 1978, Brazil acquired a very large floating structure to build a pulp plant and a power plant. In the 1980s, Bangladesh and Jamaica purchased floating power plants; Saudi Arabia built a floating desalination plant; Argentina invested in a floating polyethylene plant.

In addition to industrial and commercial applications, the government of Japan has been at the forefront of using the technology for emergency purposes. In response to the 1973 and 1979 oil crises, Japan built two floating oil stockpile bases in 1988 and 1996, respectively. The first oil stockpile base is located in Kamigoto Island, Nagasaki; it has five floating oil storage barges. The second is located in Shirashima Island, offshore Fukuoka City; it consists of seven oil storage barges. Japan also has a number of floating emergency rescue bases in Tokyo Bay, Ise Bay, and Osaka Bay.

To further develop and solidify the feasibility of mega-float, in 1995 Japan’s Ministry of Land, Infrastructure, and Transportation (MLIT) recommended the formation of TRAM (Technological Research Association of Megafloat). For six years, research and development at TRAM were devoted to assessing the soundness of the technology. Phase I (1995-1997) of the research involved testing the reliability of basic mega-float technology. To this end, a 300 meter-long mega structure was built at sea to examine the fundamental design fabrication, assembly at sea, operational requirements, and environmental impact. (See table 6 for details.) TRAM’s efforts were validated by governments and experts.

In addition to MLIT’s stamp of approval, a 1998 GAO report acknowledged that “the Government of Japan, ocean engineering and other university professors, and other experts have concluded that three types of sea-based facilities are technically feasible: the pontoon type, the

---

<sup>119</sup> The Seadrome model was built by the H.H. Ward Company and had a successful test in the Choptank River in 1929. However, there were many roadblocks to developing the idea: the beginning of the 1929 market crash, disbelievers, and security issues. The Seadrome demonstration film was presented to President Franklin Roosevelt; the concept impressed him. Consequently, a hearing before the Federal Aviation Commission was arranged in 1934. At the testimony, Charles Lindbergh – who was working for Pan American Airlines – and airline executives testified against the Seadrome. The floating airplane stations were never built. Eventually, Armstrong’s invention was picked up for the development of semi-submersible off shore oil rigs in the 1950s. PBS History Detectives. “Episode 711, Story 2: Seadrome.” May 22, 2011. [http://www-tc.pbs.org/opb/historydetectives/static/media/transcripts/2011-05-22/711\\_seadrome.pdf](http://www-tc.pbs.org/opb/historydetectives/static/media/transcripts/2011-05-22/711_seadrome.pdf).

pile-supported type, and the semi-submersible type.”<sup>120</sup> The pontoon-type is a large platform that is partially below water line, supported by pontoons, and is attached to a mooring system; its ideal construction site is 3,000 feet from shore, situated in calm waters with a breakwater system to absorb wave action. The pile-supported type is a large platform supported by columns, or piles drilled into the seabed; its ideal building site is closer to shore, i.e., 16 – 82 feet. The semi-submersible type is a large platform, above water line, supported by floating underwater hulls; it can withstand a rough seas environment. This technology was rejected in 1973-74 for constructing Phase I of the Kansai International Airport; in 1998, GAO pointed out in a DOD report that the semi-submersible mega-float “relies on technology that does not yet exist,” and is “limited by current technology to about 1,000 feet in length.”

### *Initial rejection*

After the SACO report, the idea of building a floating runway and bridges was proposed as part of the FRF.<sup>121</sup> Tasked as designer and builder, Japan initiated a request for proposals at the ministry level, then the SRCJ developed the idea. Based on the 1996 SCC decision, the sea-based facility included a 1,500 meter-long runway to support most helicopter operations of Futenma, as well as a 1,300 meter-long Instrument Flight Rules (IFR)-capable runway.<sup>122</sup> Interviews at SRCJ indicated that this proposal also included a 3,200-meter breakwater device; two floating bridges of 3 kilometers (about 2 miles) each to connect the USMC base to the sea-based facility off coast of Nago City, Okinawa. However, the idea was not viable due to cost, technological, and operational concerns; it was rejected because a project this scale was unprecedented.

In 1998, the US Government Accountability Office (GAO) raised various challenges to the mega-float technology for military use. According to the report, “some local opposition has surfaced against the facility in the area in which it is to be built”; moreover, the “United States and/or Japan will face: 1) significant costs to acquire and maintain the facility; 2) major technological challenges, as no sea-based facility of the type and scale envisioned has ever been built; and 3) operational complications because the sea-based facility envisioned would be insufficient to support all US operating requirements and maintain maximum safety margins.”

If the sea-based concept is to be realized, cost issues must be overcome with robust financial backing from Japan and the US. After the SCC decision, GAO concluded in 1998 that it would cost Japan a total of \$7.3 billion to design (\$2.4 billion) and to build (\$4.9 billion) the

---

<sup>120</sup> US General Accounting Office, *Overseas Presence: Issues Involved in Reducing the Impact of the US Military Presence on Okinawa*, Norman J. Rabkin, Washington D.C.: GAO/NSIAD-98-66, March 3, 1998, <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-98-66/pdf/GAOREPORTS-NSIAD-98-66.pdf> (accessed May 20, 2013).

<sup>121</sup> US General Accounting Office, *Overseas Presence: Issues Involved in Reducing the Impact of the US Military Presence on Okinawa*, Norman J. Rabkin, Washington D.C.: GAO/NSIAD-98-66, March 3, 1998, <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-98-66/pdf/GAOREPORTS-NSIAD-98-66.pdf> (accessed May 20, 2013).

<sup>122</sup> “Pursue construction of a SBF to absorb most of the helicopter operational functions of Futenma Air Station. This facility will be approximately 1500 meters long, and will support the majority of Futenma Air Station’s flying operations, including an Instrument Flight Rules (IFR)-capable runway (approximately 1300 meters long), direct air operations support, and indirect support infrastructure such as headquarters, maintenance, logistics, quality-of-life functions, and base operating support. The SBF will be designed to support basing of helicopter assets, and will also be able to support short-field aircraft operations.” Ministry of Foreign Affairs of Japan. “The SACO Final Report on Futenma Air Station (an Integral Part of the SACO Final Report).” Dec. 2, 1996. <http://www.mofa.go.jp/region/n-america/us/security/96saco2.html>.

floating FRF; the maintenance cost was to be \$8 billion over a 40-year life span, based on the US engineers' estimate. Therefore, if the FRF moves forward, it would cost the US \$200 million per year in comparison to \$2.8 million for the status quo.

The GAO cited an August 1997 report by the Naval Facilities Engineering Command (NFEC), which described various difficulties that the mega-float must overcome in order to be feasible. They are: 1) typhoons that may strike 180 nautical miles of Okinawa Island at an average of four times a year; 2) waves hitting beneath the deck during a storm; 3) instability or sinking; 4) tsunamis; 5) the mooring system must be able to drop and rise with waves; 6) the ability to resume normal operations within 24 to 48 hours after an aircraft crash or accident; 7) the possible requirement of watertight doors and compartments to prevent flooding; 8) corrosion control.<sup>123</sup>

Furthermore, GAO pointed out that Japan lacked a "risk-reduction phase," which is to illustrate operational and cost feasibilities of a sea-based FRF. Because it is DOD policy requirement that this phase be included for major systems acquisition, GAO recommended that Japan should demonstrate: 1) risk assessments; or 2) life-cycle cost analyses; or 3) design tradeoffs on the mega-floats.

The idea of a floating FRF did not garner support from the US military. Per the 1996 SCC agreement, the FRF was to include a 1,500 meter-long runway to cover most helicopter operations, and a 1,300 meter-long Instrument Flight Rules (IFR)-capable runway. However, in 1998 the US Marine Corps raised safety concerns due to "operational complications" caused by the proposed length of the runway.

A US Marine Corps study asserted that the FRF can compromise safety margins when an *MV-22*, also known as the *Osprey*,<sup>124</sup> is taking off at maximum weight under wet runway conditions. The Marine Corps pointed out that the proposed 4,200-foot (1,280 meter) runway was too short as the *MV-22* requires a 5,112-foot (1,558 meter) runway to take off at its maximum weight of 59,305 pounds, and to maintain maximum safety margins during severe weather conditions.

---

<sup>123</sup> US General Accounting Office, *Overseas Presence: Issues Involved in Reducing the Impact of the US Military Presence on Okinawa*, Norman J. Rabkin, Washington D.C.: GAO/NSIAD-98-66, March 3, 1998, <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-98-66/pdf/GAOREPORTS-NSIAD-98-66.pdf> (accessed May 20, 2013).

<sup>124</sup> US Marine Corps. "MV-22 Osprey." <http://www.marines.com/operating-forces/equipment/aircraft/mv-22-osprey>. The MV-22B Osprey is designed "for expeditionary assault support, raid operations, cargo lift and special warfare, the MV-22B Osprey has Vertical takeoff and landing, and short takeoff and landing (VSTOL) capabilities."

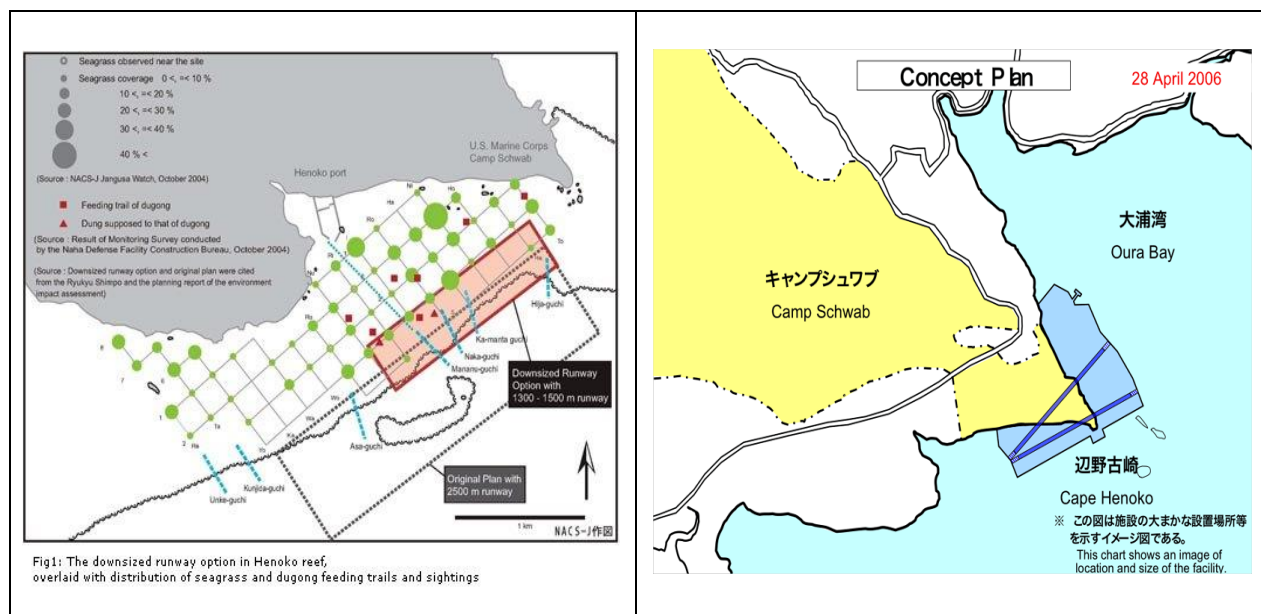
"An aircraft that can fly like a plane, but take off and land like a helicopter, would be an asset to many Japanese communities, he [Japanese Defense Minister] said. 'In consideration of the Self-Defense Force's disaster relief operations, which are particularly important for certain municipalities, it is a critical fact that there are numerous remote islands in Japan, and many of them don't have a runway,' Onodera said at a recent news conference. 'Under such restricted conditions, tilt-rotor aircraft such as the Ospreys have superior capability to carry out disaster relief operations and transport patients in a timely manner... In addition, tilt-rotor aircraft are vital equipment for defending Japan's territory, including outlying islands.' Onodera said Japan's five-year midterm National Defense Program Guidelines for fiscal 2014 and beyond calls for as many as 17 tilt-rotor aircraft by fiscal 2018. The purchase of the V-22 aircraft, however, is not yet set in stone, and the type of aircraft to be purchased was still under consideration." See Matthew M. Burke and Chiyomi Sumida, "Japan eyes buying Ospreys as US looks to expand fleet to mainland," *Stars and Stripes*, July 19, 2014, <http://www.stripes.com/news/pacific/japan/japan-eyes-buying-ospreys-as-us-looks-to-expand-fleet-to-mainland-1.294259>.



The Corps' opposition to the mega-float idea was confirmed in 2012 interviews. When asked about reasons behind the rejection of Tokyo's sea-based facility proposal, Japanese government official and media all hinted that the question should be directed at the US Marine Corps. Kerry Gershaneck, a former US Marine and Congressional & Public Affairs Officer at Department of Navy, also revealed resistance to the mega-float/FRF idea.

Because of the persistent internal confusion and/or disagreements over FRF objectives and purposes, the FRF runway length and its location fluctuated over time. (See figure 5.) This impeded progress on agreeing on a feasible plan; furthermore, it makes operational feasibility difficult to determine.

**Figure 5: Changes in the Length of the Futenma Replacement Runway**



- In 1996, the SCC agreed on a 1,500 meters-long runway to cover most helicopter operations, and a 1,300 meter-long Instrument Flight Rules (IFR)-capable runway.
- In 1998 GAO cited a US Marine Corps study emphasizing that the proposed 1,280 meters-long runway creates operational challenges for *MV-22 Osprey* in wet weather conditions.
- In 2005, the original proposed 2,500 meter runway in the Henoko Bay was reduced to 1,300-1,500 meter runway.
- In 2006, the SCC agreed that the FRF was to include two 1,600-meter runways plus two 100-meter overruns. The runways are to be “V” shaped, and built adjacent to Camp Schwab (Oura Bay and Henoko Bay). Land reclamation is to be the construction method. The 2012 Japan Defense Paper noted that the US “does not intend to operate fighter aircraft from this facility.”<sup>125</sup>

\*Sources: Seagrass-Watch<sup>126</sup> and Go Guam<sup>127</sup>

<sup>125</sup> Ministry of Defense of Japan. *Defense of Japan 2012*. (Tokyo: Erklaren Inc., 2012), 434.

<sup>126</sup> “Okinawa,” Seagrass-Watch, accessed Sept. 9, 2014, <http://www.seagrasswatch.org/okinawa.html>.

<sup>127</sup> “2006年4月28日付概念図,” Go Guam.Com, accessed Sept. 9, 2014, <http://www.goguam.com/2009/04/20094132009419-voll1-no15.html>.



In addition to cost, technological, and operational issues, GAO also noticed limitations on the US ability to oversee the project. The USFJ and the Naval Facilities Engineering Command informed GAO that they “cannot provide the day-to-day detailed oversight such a project requires and still meet their other responsibilities.” Nonetheless, the “USFJ has requested the establishment of a Project Management Office to oversee and coordinate SACO implementation while the Naval Facilities Engineering Command has asked for funding for a special project office to oversee the design and construction of the sea-based facility.”

Given the array of issues concerning cost, technology, operation, and project management, GAO concluded in 1998 that building a sea-based FRF will be *the greatest challenge*. In its report, the following recommendations were made to the US secretary of defense: 1) to decide on means to monitor the design, engineering, and construction of the sea-based facility; 2) to work with Japan to include a risk-reduction phase to ensure the affordability and operational feasibility of the sea-based facility; 3) to take steps to ensure all US concerns have been satisfied prior to the FRF construction; 4) to request funds from the government of Japan for projects at Futenma that are deemed essential to continue operations. In response to GAO findings, the Department of Defense concurred with its assessment and recommendations, and noted that “the role of Congress will be critical in maintaining the strategic relationship with Japan.”<sup>128</sup>

#### *Subsequent research and development and use*

Since the 1998 GAO report, the mega-float has undergone further R&D; its soundness has strengthened as a result. In a follow-up to its 1998-2001 Phase I research, TRAM focused on establishing technology for airport construction. Recognized by the Guinness World Records as the largest man-made floating island in 1999, TRAM assembled a 1,000 meter-long mega-float on water at Yokosuka Port, Tokyo Bay, Japan. (See table 7 for details.)

Because the stability of a mega-float depends heavily upon the engineers’ grasp of hydro-elasticity, Phase II research was dedicated to developing programs that analyze this effect. According to the MLIT official website, 17 of Japan’s top shipbuilding and steel-making enterprises examined: 1) the potential design of a large-scale Mega-Float airport that accounts for hydro-elastic response; 2) whether minute motions due to hydro-elastic response in the floating airport would affect “Instrument Landing System” (ILS) and “Precision Approach Path Indicators” (PAPI); 3) safe take-offs and landings can actually be made under minute motions due to hydro-elastic response in the floating airport.<sup>129</sup>

In addition to these programs, other projects were developed for evaluating global hydro-elastic response and examining detailed structural design purposes. More specifically, five programs were developed to address fluid domain, water depth, draft, structure, shape, stiffness,

---

<sup>128</sup> US General Accounting Office, *Overseas Presence: Issues Involved in Reducing the Impact of the US Military Presence on Okinawa*, Norman J. Rabkin, Washington D.C.: GAO/NSIAD-98-66, March 3, 1998, <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-98-66/pdf/GAOREPORTS-NSIAD-98-66.pdf> (accessed May 20, 2013).

<sup>129</sup> “A Stamp of Approval to Mega-Float Airport Feasibility,” Ministry of Land, Infrastructure, Transport and Tourism, accessed Sept. 9, 2014, [http://www.mlit.go.jp/english/maritime/mega\\_float.html](http://www.mlit.go.jp/english/maritime/mega_float.html).

mass, and breakwater.<sup>130</sup> These programs led to TRAM's ability to address: 1) large-scale mega-float airport design that account for hydro-elastic response; 2) ILS and PAPI evaluations; 3) data analysis and pilot evaluation using Japan Airlines flight simulator to test airplane takeoff and landing. The results indicated that *hydro-elastic response have absolutely no effect on landing*, according to the ministry. Research also found that the mega-float does not harm marine life underneath it.

Furthermore, during Phase II safety concerns raised by the GAO were investigated and resolved. On fears of accidental collision, extreme wave conditions, and failures of the mooring system, TRAM determined the number and size of watertight compartments, and requirements for compartmental division to protect the mega-float from sinking, drifting, and flooding. For example, a 500 hectare mega-float has more than 10,000 compartments and is moored by more than 30 dolphins; even in case of several compartments being flooded simultaneously the mega-float can retain buoyancy. To guard against tsunamis, research indicated that the best site for mega-float construction is inside a large bay or at a distance from shoreline.<sup>131</sup>

As for concerns over crashes, a simulation using a 500-ton fuselage – dropped at the velocity of 360km per hour – showed limited damage to the mega-float.<sup>132</sup> In the case of earthquakes, research determined that vibrations were transmitted vertically through the mooring system, and thus effects were limited to the mooring system and isolated the floating structure.<sup>133</sup> Finally, to counter sea corrosion, the NSSC270 technology was developed to guarantee the mega-float has a life span of 100 years.

After the 2001 Phase II demonstration, the Shipbuilding Research Center of Japan (SRCJ) and the Shipbuilders' Association of Japan succeeded TRAM's activities, and decided to focus on pontoon-type R&D because of cost-effectiveness and suitability for construction in a large bay. That same year, Japan's Mega-float Airport Investigation Committee, formed by the Ministry of Land, Infrastructure and Transport announced that a mega-float airport with a scale of up to 4,000 meters is more than feasible.<sup>134</sup> In 2009, the D runway at Tokyo International Airport (Haeda) makes operational a 2,500-meter offshore runway and taxiway bridge.

Over the decades, the mega-float continues to evolve and achievements made by TRAM and SRCJ have solidified its viability. The proliferation of the mega-float around the world for

---

<sup>130</sup> "Very Large Floating Structures: Applications, Research and Development," Science Direct, accessed Sept. 9, 2014, <http://www.sciencedirect.com/science/article/pii/S1877705811010848>.

<sup>131</sup> "Very Large Floating Structures: Applications, Research and Development," Science Direct, accessed Sept. 9, 2014, <http://www.sciencedirect.com/science/article/pii/S1877705811010848>.

<sup>132</sup> "Aircraft Crash," Shipbuilding Research Center of Japan, accessed Jan. 25, 2015, [http://www.srcj.or.jp/html/mega/float\\_en/whatmega/what\\_index.html](http://www.srcj.or.jp/html/mega/float_en/whatmega/what_index.html).

<sup>133</sup> "Very Large Floating Structures: Applications, Research and Development," Science Direct, accessed Sept. 9, 2014, <http://www.sciencedirect.com/science/article/pii/S1877705811010848>.

<sup>134</sup> *A Stamp of Approval to Mega-Float Airport Feasibility* (Tokyo, Japan: Technology Division of the Maritime Bureau, Ministry of Land, Infrastructure and Transport of Japan, 2001).

commercial- and industrial-use is testament to its reliability.<sup>135</sup> Still, the MLIT's approval of a 4,000 meter-long runway, which is more than twice the size of the proposed replacement runway at 1,600 meters with 100 meter overruns, failed to gain support in Washington, Tokyo, and Okinawa.

### *The mega-float idea: rejected by Washington, Tokyo, and Okinawa*

A floating FRF was rejected for cost, technological, operational, and management reasons. Even though subsequent R&D has demonstrated that the mega-float can overcome technological and operational challenges, opponents continue to point to affordability as a major issue – when in reality, the project depends on *politicking* in Washington, Tokyo, and Okinawa.

### Washington: political and economic instability

Because defense budget allocations reflect political and economic realities, the FRF policy stalled because it lacked the “right” conditions. As a result of the Sept. 11, 2001 attacks, the George W. Bush administration increased the US national security budget from approximately 4 percent of GDP in 2000 to 6 percent in 2009. During this surge in defense spending, the FRF was not a top priority because the flow of money was focused on ensuring wars in Iraq and Afghanistan were well funded.

When President Obama took office in 2009, he faced pressures at home to cut the US debt and reduce defense spending; little political capital was invested in moving forward the FRF. As a result of the sequester, the security budget has decreased to approximately 4.5 percent in 2011; the administration proposed further cuts to 2.4 percent by 2023 – which would be the lowest leveled defense spending since World War II at approximately 15 percent of GDP.<sup>136</sup> In the mist of domestic political uncertainty and budget fluctuations, the FRF couldn't secure support to be implemented.

At the international level, the 2006 US-Japan Roadmap appears to have generated activities to move forward the FRF, but it still failed to generate effective action in the US to accomplish its objectives. By 2011, US senators issued a joint statement calling for the Roadmap

---

<sup>135</sup> “The project to build what would be the world's biggest floating coal terminal is part of Japan's goal to export infrastructure technology and revive a stagnating domestic economy...The floating harbor will be placed in waters deep enough for the panamax ships to berth on one side and the barges to unload on the other. The float, 600 meters (1,968 feet) long and 150 meters wide, will be able to accommodate two Panamax ships and stockpile 600,000 tons of coal, according to Japan's transport ministry. There will be space to blend coal to customer specifications, potentially raising prices, Teramura said.” Masumi Suga and Tsuyoshi Inajima, “Indonesia May Use Japan's Floating Dock to Unlock Coal Mines,” *Bloomberg*, May 19, 2011, <http://the-japan-news.com/news/article/0001467890>. “The concept of floating desalination was expanded upon by Toshifumi Kokubun, a director of Deloitte Tomatsu Consulting, Japan. While he noted desalination was not a sector normally connected to shipping, that it “seems there is a lot of potential for alliance with the shipping industry”. On the demand side the largest markets are Saudi Arabia, the US and Australia, countries which also have stringent environmental regulations. An MLIT study said that the desalination market is worth JPY600bn (\$5.8bn) at present and this would increase to JPY1.5trn in five years...Floating desalination plants are not a completely new idea and offshore facilities have been used in Saudi Arabia, Cyprus and Thailand as temporary solutions before shore plants were up and running.” See Marcus Hand, “Japan sees shipping opportunities in floating desalination plants,” *Seatrade Global*, April 9, 2014, <http://www.seatrade-global.com/news/americas/japan-sees-shipping-opportunities-in-floating-desalination-plants.html>.

<sup>136</sup> See Dinah Walker, “Trends in US Military Spending,” Council on Foreign Relations, July 15, 2014, <http://www.cfr.org/defense-budget/trends-us-military-spending/p28855>.

to be reexamined; in 2012 US Congress imposed funding restrictions on realignment efforts by the Department of Defense (DOD) until it fulfills legislative requirements – all of which impede the progress already in motion on the FRF.

With political instability in Washington as a main culprit for budget uncertainties, accurate estimates for the FRF and for the overall realignment continue to be in a state of flux. A 2013 GAO report on defense management it concluded that DOD “could have provided a more reliable estimate that is not dependent on the completion of the environmental analyses and host nation negotiations.” The DOD was cited for not having “an estimate of the sustainment requirements for Okinawa, the costs for maintaining housing,” and therefore “will be unable to make informed decisions on whether continued investment in sustaining these facilities is warranted.”<sup>137</sup> With the USFJ funding request and allocation in question, GAO concluded that the defense department did not have a strategy to support the development and oversight of realignment initiatives – a similar comment was made in its 1998 report.

Ultimately, politics and budget uncertainty most hinder the FRF agreement, and on the overall realignment effort. All of which have serious consequences for the US military and national security. According to US Marine Corps General James Amos., his “challenge lies in balancing readiness, manpower and modernization, all under the umbrella of sequestration,” and that only 8 percent of the Marine Corps budget goes toward modernization.<sup>138</sup> Army Gen. Martin Dempsey, chairman of the Joint Chief of Staff echoed Gen. Amos’ sentiment: “When we are told we can’t reduce infrastructure, we can’t retire weapons systems, we can’t change pay, compensation, health care, what’s left ... is readiness and modernization.”

#### *Tokyo: affordability and political sensitivity*

Like the US, Japan’s economic and political conditions affect defense budget allocations, which impacts progress on the FRF. Since the SACO report, Japan went through seven prime ministers in seven years; its economy has been in a state of stagnation. According to the World Development Indicator, between 1998 and 2009, Japan’s GDP fluctuated between negative growth and expansion. Because Tokyo traditionally allocates less than 1 percent of GDP for its military budget, its economy would have to grow to justify higher military spending. As a consequence, for the mega-float/FRF - an idea deemed *too expensive* –there weren’t the “right” political and economic conditions to be implemented.

In Okinawa, opposition to the FRF persisted for a variety of reasons since the SACO report. The mega-float/FRF idea was rejected because Okinawans regard the idea as a project that only benefits mainland Japanese companies. Therefore, landfill has always been preferred by influential people in Nago City – the FRF construction site.<sup>139</sup> Even after some Okinawans

---

<sup>137</sup> US Government Accountability Office, *Defense Management: More Reliable Cost Estimates and Further Planning Needed to Inform the Marine Corps Realignment Initiatives in the Pacific*, by Brian Lepore, Washington D.C.: GAO-13-360, June 11, 2013, <http://www.gao.gov/assets/660/655142.pdf> (accessed Sept. 9, 2014).

<sup>138</sup> US Department of Defense. “Budget Uncertainty Leads to Imbalance, Top Marine Says” May 6, 2014. <http://www.defense.gov/news/newsarticle.aspx?id=122201>.

<sup>139</sup> “With the unofficial selection of the waters off Nago City as the Futenma relocation site and a survey being planned, local politics began to insert itself into the squabble over the method of construction the new facility...In mid-November 1997, I was in Nago City...At a meeting with the leading people of Nago, they told me: ‘we don’t need any megafloats or QIP; we want land

decided on the landfill method, others continue to oppose citing environmental damages to Okinawa marine life. In the end, for political reasons, not financial, land reclamation became the only option for all governments.

The argument that the mega-float is not financially feasible is questionable, because the final price tag that moves forward the Henoko plan (landfill/FRF) is comparable to a mega-float/FRF. In 1997 and 1998, GAO stated that it would cost Japan between \$2.4 - \$4.9 billion to design and construct the sea-based facility. But in 2013, after Gov. Nakaima finally gave the green light to construct landfill/FRF, the cost was estimated at between \$2.3 billion (¥231 billion) to \$3.4 billion (¥350 billion), according to Japan- and Okinawa-based media.<sup>140</sup> Without inflation adjustment, this price tag is similar to GAO's 1998 estimate for building a mega-float/FRF. (See table 9.)

Moreover, \$2.3 to \$3.4 billion is not the overall cost for implementing Henoko. The final cost should take into account the \$3 billion (¥300 billion) per year to Okinawa until FY 2021 (\$3 billion x 7 years = \$21 billion). This brings the final cost of Henoko at \$23.3 to \$24.4 billion.

In contrast, it would cost roughly \$22.2 billion if a mega-float/FRF is built. Using the cost of Tokyo Haneda Airport D runway as a rough benchmark, the total cost to complete a replica of Futenma using mega- structures would be around \$55.8 billion. But it was never ideal to have the whole military base at sea. Therefore, the more realistic scenario is to either replicate 40 percent of Futenma, i.e., runways, taxiways, and aircraft parking, which would cost \$22.2 billion; or to build 60 percent of Futenma which would cost about \$33.6 billion. (This estimate will fluctuate depending on the price of steel). (See table 11.)

In addition to questionable cost arguments against the mega-float, neither landfill nor mega-float is financially feasible under Washington's and Tokyo's budget allocations. In 2012, GAO estimated \$38 million (¥3.8 billion) for realignment projects in Okinawa, which includes FRF construction. But in the same year, Japan allocated \$85 million (¥8.6 billion) in total on SACO-related costs and \$35 million (¥3.6 billion) out of a total of \$0.6 billion (¥62.7 billion) for realignment efforts in 2012.<sup>141</sup> Assuming all the aforementioned money is for building the FRF, which is impossible, the true cost of the FRF remains unclear. More importantly, this raises more questions as to how much affordability was an issue in the stalled Henoko plan. What is clear is that the FRF, or any policy, needs robust financial backing regardless of construction method.

---

reclamation." "Their reasoning was that only contractors in northern Okinawa should participate in the construction of the Futenma replacement facility as a project for local development." Ministry of Defense of Japan. *Defense of Japan 2012*. (Tokyo: Erklaren Inc., 2012), 449; and referenced William L. Brooks, "The Politics of the Futenma Base Issue in Okinawa: Relocation Negotiations in 1995-1997, 2005-2006," *Asia-Pacific Policy Paper Series No. 9* (2010), accessed May 21, 2013, [http://reischausercenter.web.fc2.com/papers/brooks/okinawa\\_brooks.pdf](http://reischausercenter.web.fc2.com/papers/brooks/okinawa_brooks.pdf).

<sup>140</sup> "Henoko landfill could cost ¥230 billion," *Japan Update*, July 4, 2013, <http://www.japanupdate.com/2013/07/henoko-landfill-could-cost-%C2%A5230-billion/>; "Henoko reclamation to cost 231 billion yen," *Ryukyu Shimpō*, June 29, 2013, <http://english.ryukyushimpō.jp/2013/07/05/10752/>; and Tai Kawabata, "Expert pushes plan he says can quickly solve Futenma issue," *The Japan Times*, July 29, 2014, <http://www.japantimes.co.jp/news/2014/07/29/national/expert-pushes-plan-says-can-quickly-solve-futenma-issue/#.U92fjWPCdy8>.

<sup>141</sup> US Department of State. "Joint Statement of Japan-US Security Consultative Committee." Oct. 3, 2013. <http://iipdigital.usembassy.gov/st/english/texttrans/2013/10/20131003283979.html#axzz32PLD43wo>. Also Ministry of Defense of Japan. *Defense of Japan 2012*. (Tokyo: Erklaren Inc., 2012), 233.

In general, the Henoko plan moved forward because right conditions were set and Abe seized a window of opportunity to make changes. In 2010, Japan's economy seemed to awaken – it enjoyed a brief surge of 5 percent GDP growth in 2010 from -6% in 2009.<sup>142</sup> In 2012, interviews indicate that GOJ has been working with Okinawa to gain understanding of the Henoko plan; personnel involved were waiting for the stars to align. Since then, “Abenomics” took-off and Japan's GDP started growing at a “seasonally adjusted annual rate of 5.9 percent in the first quarter.”<sup>143</sup> Prime Minister Abe's reform had boosted his popularity, and allowed him to raise Japan's defense spending. In 2013, Bloomberg reported that Japan's defense budget will increase for the first time in 11 years.<sup>144</sup> In addition to favorable domestic conditions, an assertive China and changing global security environment have also influenced Tokyo's determination to send a message, namely, that the US-Japan alliance is as strong as ever.

Beijing's unilateral announcement in November 2013 of its Air Defense Identification Zone,<sup>145</sup> which includes islands in dispute with Japan and Taiwan, shook Tokyo's sense of security. While the US-Japan alliance had always been the cornerstone of security in Asia, Prime Minister Abe drove that message home by moving forward the Henoko plan (landfill/FRF). In December 2013, with both GOJ and OPG acknowledging the difficulties surrounding Futenma and the FRF, Abe and Nakaima came together in a public forum in a show of unity. To move forward with the FRF, Prime Minister Abe offered to stimulate the Okinawa economy with approximately \$21 billion to the prefecture until FY 2021, and Gov. Nakaima reciprocated with the issuance of landfill permit needed to proceed with constructing the FRF in Nago City.<sup>146</sup> After 16 years of stagnation, the stars – economics, politics, and security have aligned; just one more star is needed – the grassroots movement in Okinawa.<sup>147</sup>

Seventeen years ago, the inception of the mega-float/FRF idea was floated but it never gained acceptance from defense planners. It was rejected by the GAO, the Naval Facilities Engineering Command, and the US Marines for cost, technological, and operational reasons. Despite subsequent R&D and demonstration, the US government is not convinced that it is a sound technology for military use; GOJ is loyal to the Henoko plan due to opposition from the US Marine Corps and those who favor the landfill method; and the current Nago City mayor, Inamine Susumu, is not as agreeable to the FRF as was former Mayor Higa Tetsuya.<sup>148</sup>

---

<sup>142</sup> The World Bank. “World Databank.” 2014. <http://databank.worldbank.org/data/views/reports/chart.aspx>.

<sup>143</sup> Mitsuru Obe, “Japan's Growth Picks Up Sharply,” *The Wall Street Journal*, May 14, 2014, <http://online.wsj.com/articles/japans-gdp-growth-picks-up-sharply-1400111562>.

<sup>144</sup> Isabel Reynolds, “Japan Defense Budget to Increase for First Time in 11 Years,” *Bloomberg*, Jan 30, 2013, <http://www.bloomberg.com/news/2013-01-29/japan-s-defense-spending-to-increase-for-first-time-in-11-years.html>. And see Gerard Baker and Jacob M. Schlesinger, “Abe's Strategy: Rearrange Region's Power Balance,” May 26, 2014, <http://online.wsj.com/news/articles/SB10001424052702304811904579585702903470312?mg=reno64-wsj&url=http%3A%2F%2Fonline.wsj.com%2Farticle%2FSB10001424052702304811904579585702903470312.html>

<sup>145</sup> Bryce White, “Washington's “Asian Pivot” and China's Air Defense Identification Zone (ADIZ). US-China Power Play in the South China Sea,” *Global Research*, Dec. 21, 2013, <http://www.globalresearch.ca/washingtons-asian-pivot-and-chinas-air-defense-identification-zone-us-china-power-play-in-the-south-china-sea/5362329>.

<sup>146</sup> Reiji Yoshida, “Nakaima cuts deal with Abe,” *The Japan Times*, Dec. 25, 2013, <http://www.japantimes.co.jp/news/2013/12/25/national/nakaima-cuts-deal-with-abe/#.U4Vxhyinfcg>.

<sup>147</sup> “Futenma relocation assailed by activists,” *The Japan Times*, May 23, 2014, <http://www.japantimes.co.jp/news/2014/05/23/national/futenma-relocation-assailed-by-activists/>.

<sup>148</sup> Sangwon Yoon, “Okinawa Mayor Invokes Red Tape, Sea Cow Deaths to Stop US Base,” *Bloomberg*, <http://washpost.bloomberg.com/Story?docId=1376-N5WEWL6JIJ001-74MBHGC8ICKCFOCK9L7MA5UC25>.

### *How context has changed if the mega-float is incorporated as part of FRF*

In 1997, a sea-based FRF made sense to reduce the US military footprint and resolve dangers posed by Futenma in Ginowan City. While that remains true emerging security challenges in the Asia-Pacific put the US-Japan alliance in a dilemma: how to strengthen national security in a volatile environment and ensure that the tools for security reasons have the least negative impact.

It is with this dilemma in mind that this report urges all governments to revisit the reasons behind Futenma; to align its overall defense strategy to the assets it needs to combat new security challenges.

### The original purpose of USMC Futenma Airfield

The US Marine Corps Futenma airfield is one of the seven bases for the United Nations Command (UNC) in Japan. Those bases were established in the 1950s to deter North Korea aggression, and to support South Korea by providing strategic and military assistance. Futenma's strategic purposes include, first, rapid response to contingencies in the region. Response time from Okinawa is a lot shorter than if the US military deploys from Honolulu or San Diego, which takes approximately 5 or 8 hours, respectively. And second, facilities at Futenma meet the requirement of US Marine Corps' doctrine on training and operation, namely the proximity of Marines to training and support facilities.

Third, as a UNC rear command airfield, it provides logistics for a wide range of military activities, and accommodates reinforcement aircraft. Logistically, the airfield provides supplies, transportation, repair, maintenance, medical services, and communications. In an event of conflict, the wait time for force and logistic reinforcement could be 1 to 8 hours, as they may be flying from Guam, Honolulu, or San Diego; thus the Marines must fight with existing resources but will need support. Therefore, to supply the Marines with proper reinforcements, it is essential that Futenma runways accommodate all type of aircraft. Currently at Futenma, two runways are available, each of 2,743 meter (9,000 feet) in length, which allows both fixed and non-fixed wing aircraft to land and take-off.

### The new security challenges: hybrid and volatile

The 21<sup>st</sup>-century challenges are increasingly complex and more diverse than during the Cold War, which make a “black-and-white distinction between irregular war and conventional war.”<sup>149</sup> At the end of the 20<sup>th</sup> century, Defense secretaries during the Clinton era<sup>150</sup> supported

---

<sup>149</sup> Stephen Daggett. “CRS Report for Congress Prepared for Members and Committees of Congress Quadrennial Defense Review 2010: Overview and Implications for National Security Planning,” May 17, 2010. <http://www.fas.org/sgp/crs/natsec/R41250.pdf>.

<sup>150</sup> The security environment in Asia-Pacific has long been dynamic, however, regional stability has been reduced since 1997 – largely due to China's rise and Russia's renewed ambitions. At the end of the first Clinton administration, it saw the US characterized the world as being in “a period of promise” and “stable and prosperous.” The US was also working with China, and its former adversary, Russia, according to the 1997 National Security Strategy. National Security Strategy Archive of the United States. “National Security Strategy of the United States.” May 1997. <http://nssarchive.us/NSSR/1997.pdf>.

the principle of a “two regional war” strategy, and maintained the readiness of US forces accordingly.<sup>151</sup> But this principle was deemphasized in the 2010 Quadrennial Defense Review (QDR); the new concept is to maintain readiness for a wider range of challenges.<sup>152</sup> The justification for deviating from traditional force planning is backed by lessons learned from previous wars and because threats have evolved to hybrid challenges.

The idea of “hybrid threats” was raised and supported by retired Marine Lt. Col. Frank Hoffman and former Defense Secretary Robert Gates. It means that US adversaries could use a combination of means to gain asymmetric advantage in conflict.<sup>153</sup> In a 2009 address at the Maxwell Air Force Base, Gates said: “War in the future will often be a hybrid blend of tactics where a nation state might deploy a mix of crude and advanced weapons to limit options, disrupt freedom of action or deny access to key assets such as forward air bases.”<sup>154</sup> To confront new challenges, Gates emphasized the importance of adopting a mixture of weapon systems that is flexible and versatile, to better meet a wide spectrum of conflicts while enhancing interoperability. Since Gates’ departure, tensions have erupted in different regions.

In the Asia-Pacific, the security situation is becoming more volatile as tensions rise between China and its neighbors. At the May 2014 Shangri-La Dialogue, Defense Secretary Chuck Hagel criticized Beijing for destabilizing the South China Sea, and said that its actions threaten progress in the Asia-Pacific region. Indeed, China’s open disregard for the rule of law at sea,<sup>155</sup> its unilateral action on announcing air defense identification zone, and its dismissal of claims by Japan, Vietnam, and the Philippines have all drawn strong reactions.

In early 2012, the PLAN began executing Beijing’s claim to almost the entire South China Sea by challenging the Philippines over Scarborough Shoal; in July that year, Beijing

---

Also US Department of Defense, *Quadrennial Defense Review 2014*, Washington D.C.: March 4, 2014, [http://www.defense.gov/pubs/2014\\_Quadrennial\\_Defense\\_Review.pdf](http://www.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf) (accessed Sept. 9, 2014).

<sup>151</sup> “William J. Perry 19th Secretary of Defense,” US Department of Defense, accessed Sept. 9, 2014, [http://www.defense.gov/specials/secdef\\_histories/SecDef\\_19.aspx](http://www.defense.gov/specials/secdef_histories/SecDef_19.aspx). Also “William S. Cohen 20th Secretary of Defense,” US Department of Defense, accessed Sept. 9, 2014, [http://www.defense.gov/specials/secdef\\_histories/SecDef\\_20.aspx](http://www.defense.gov/specials/secdef_histories/SecDef_20.aspx).

<sup>152</sup> “US forces today and in the years to come can be plausibly challenged by a range of threats that extend far beyond the familiar “major regional conflicts” that have dominated US planning since the end of the Cold WAR...America’s adversaries have been adopting a wide range of strategies and capabilities that can be brought to bear against the United States and its forces, allies, and interests, it is no longer appropriate to speak of “major regional conflicts” as the sole or even the primary template for sizing, shaping, and evaluating US forces...US forces must be prepared to conduct a wide variety of missions under a range of different circumstances.” US Department of Defense, *Quadrennial Defense Review Report*, Washington D.C.: February 2010, [http://www.defense.gov/qdr/images/QDR\\_as\\_of\\_12Feb10\\_1000.pdf](http://www.defense.gov/qdr/images/QDR_as_of_12Feb10_1000.pdf) (accessed Sept. 9, 2014).

<sup>153</sup> Stephen Daggett. “CRS Report for Congress Prepared for Members and Committees of Congress Quadrennial Defense Review 2010: Overview and Implications for National Security Planning,” May 17, 2010. <http://www.fas.org/sgp/crs/natsec/R41250.pdf>.

And Hoffman, Frank G. “Hybrid Threats: Conceptualizing the Evolving Character of Modern Conflict.” *Strategic Forum*, no. 240 (April 2009): 1-8. <http://www.isn.ethz.ch/Digital-Library/Publications/Detail/?ots591=0c54e3b3-1e9c-be1e-2c24-a6a8c7060233&lng=en&id=98862>.

<sup>154</sup> US Department of Defense. “Remarks by Secretary of Defense Robert Gates at Maxwell Air Force Base, Ala.,” April 15, 2009. <http://www.defense.gov/transcripts/transcript.aspx?transcriptid=4403>.

<sup>155</sup> The rule of law at sea, based on a speech by Prime Minister Abe at the 13th IISS Asian Security Summit The Shangri-La Dialogue, means that: 1) states shall make and clarify their claims based on international law; 2) states shall not use force or coercion in trying to drive their claims; 3) states shall seek to settle disputes by peaceful means.



formally created Sansha City, which oversees its claims to territories in dispute with Vietnam, the Philippines, Malaysia, Brunei, and Taiwan. In November 2013, Beijing unilaterally declared an ADIZ (air defense identification zone) over the East China Sea; and escalated its dispute with Japan over the Senkaku/Diaoyu islands. In May 2014, Beijing put an oil rig in disputed waters that Vietnam claims as its exclusive economic zone (EEZ).

Beijing's assertiveness and disregard for the rule of law have resulted in strong reactions from its neighbors. In May 2014, Hanoi confronted the PLAN at sea over Beijing's oil rig, and allowed protests against China's unilateral action.<sup>156</sup> In June, Manila filed complaints in international court against Beijing.<sup>157</sup> And in July, Prime Minister Abe announced a reversal of restrictions posed by Japan's Article 9 Constitution – regarding the right to collective self-defense.<sup>158</sup>

Amid creeping advances in the Asia-Pacific, there is an array of security issues that needs the attention of the US: terrorism, cyber intrusions, drug and human trafficking, proliferation of weapons of mass destruction, and climate change. All of which underscores former Defense Secretary Gates' point: the US must be ready to confront a combination of threats, and the overall strategy must be supported by assets.

#### Align strategy with assets: the role of the mega-float

Given that future challenges will be both hybrid and conventional, building an unconventional base can boost future force readiness. In the 2014 QDR, the DOD addressed these challenges by recognizing the need to develop forces capable of responding to hybrid scenarios with a combination of high-and low-level threats.<sup>159</sup> More specifically, the Defense Department outlined three pillars in its new strategy:

1. *To protect the homeland*, to deter and defeat attacks on the United States and to support civil authorities in mitigating the effects of potential attacks and natural disasters;
2. *To build security globally*, to preserve regional stability, deter adversaries, support allies and partners, and cooperate with others to address common security challenges;

---

<sup>156</sup> Hilary Whiteman, "How an oil rig sparked anti-China riots in Vietnam," *CNN*, May 19, 2014,

<http://www.cnn.com/2014/05/19/world/asia/china-vietnam-islands-oil-rig-explainer/>.

<sup>157</sup> Simone Orendain, "International Court Asks Beijing to Defend S. China Sea Claims," *Voice of America*, June 4, 2014, <http://www.voanews.com/content/china-rejects-philippine-court-case-in-s-china-sea-dispute/1929188.html>.

<sup>158</sup> Ayako Mie, "Officials push to scrap limits on SDF missions," *The Japan Times*, June 3, 2014, <http://www.japantimes.co.jp/news/2014/06/03/national/politics-diplomacy/officials-push-scrap-limits-sdf-missions/#.U4-QmCinfcg>.

Also "US backs bolstered military role," *The Japan Times*, May 31, 2014, <http://www.japantimes.co.jp/news/2014/05/31/national/politics-diplomacy/u-s-backs-abe-tells-china-to-stop-its-destabilizing-actions/#.U4-Spiinfcg>.

<sup>159</sup> "The 2010 QDR pointedly does not endorse any easily summarized set of metrics for determining the size and makeup of the force. Rather, the review tested the ability of planned forces to respond flexibly and effectively when confronted with "several scenario combinations" that were intended to stress capabilities." Stephen Daggett. "CRS Report for Congress Prepared for Members and Committees of Congress Quadrennial Defense Review 2010: Overview and Implications for National Security Planning," May 17, 2010. <http://www.fas.org/sgp/crs/natsec/R41250.pdf>.

3. *To project power and win decisively*, to defeat aggression, disrupt and destroy terrorist networks, and provide humanitarian assistance and disaster relief.

In the context of a possible conflict in the Asia-Pacific region, logistics in the green water (i.e., nations' littoral zones; for example, the South China Sea to the first island chain) will be key to deter and defeat aggressor(s). During peace-time, the mega-float can serve as part of the FRF; during conflict, it can function as an offensive vehicle. To realize this concept, the design of the mega-float/FRF is crucial. First, the length of the FRF runways must be appropriate.

The length of the FRF runways should coincide with aircraft developments. According to the Federal Aviation Administration (FAA), the length of the runway is justified by the aircraft designs, and required longest runway lengths of aircraft that will be making regular use of the runway.<sup>160</sup> The current Henoko/FRF's two 1,600 meter-long V-shaped runways cannot accommodate all types of aircraft. Despite that the 2006 Roadmap specified that the USG does not intend to operate fighter aircraft at Henoko/FRF, the replacement airfield should still reflect the development of all aircraft to be deployed by the US military. If not, Futenma's original capability will be lost.

In addition to the FAA guidance, a 1995 study by Scott Murdock *The Influence of Aircraft Development on Runway Design*,<sup>161</sup> also confirms that runway lengths must be complimentary to aircraft development. Murdock found there were correlations between developments of aircraft and length of runways. Between 1945 and 1970, the average length of runways increased from 6,750 to 11,526 feet. He attributed these extensions to: "bomber aircraft (B-36, B-47, B-57, and B-58); their accompanying refueling aircraft (KC-97 and KC-135) account for 13 of 18 runway extensions during the period 1950-1960, or 72 percent. Another three runway extensions, or 17 percent, can be attributed to new jet interceptor aircraft (F-86 and F-84)." Even though his study identified instances of politics and budgets affecting runway lengths, Murdock concluded that there were not clear patterns between these variables and runway extensions. (See table 8.)

To qualify as one of the "forward deployed bases" and effectively execute DOD's strategic pillars two and three, the FRF must have runways long enough to accommodate the most heavy-duty aircraft. Table 8 demonstrates the correlation between aircraft design and runway lengths, and highlights the need to accommodate aircraft that require the longest runway

---

<sup>160</sup> Five steps to determine runway requirements: "1) identify the list of critical design airplanes that will make regular use of the proposed runway for an established period of at least five years; 2) identify airplanes or family of airplanes that will require the longest runway lengths at maximum certified takeoff weight (MTOW); 3) using Table 1-1 of AC 150/5325-4B and the airplanes identified in Step #2, determine the method that will be used for establishing the recommended runway length based upon useful load and service needs of critical design aircraft or family of aircraft; 4) select the recommended runway length from among the various runway lengths generated in Step 3 using the process identified in Chapters 2, 3 or 4 of the Advisory Circular, as applicable; 5) apply any necessary adjustment (i.e. pavement gradient, pavement conditions, etc.)." "Appendix B: Runway Length Analysis," England Airpark and Community, accessed Sept. 9, 2014, <http://www.Englandairpark.org/sites/default/files/AEX%20Appendix%20B%20-%20Runway%20Length%20Justification%20%28FINAL%29.pdf>. Also Department of Transportation Federal Aviation Administration. "Advisory Circular." July 1, 2005. [http://www.faa.gov/documentlibrary/media/advisory\\_circular/150-5325-4b/150\\_5325\\_4b.pdf](http://www.faa.gov/documentlibrary/media/advisory_circular/150-5325-4b/150_5325_4b.pdf).

<sup>161</sup> "The Influence of Aircraft Development on Runway Design," on Scott Murdock's website, accessed Sept. 9, 2014, <http://www.airforcebase.net/usaf/runways.html>.

length. The FAA requires this as well: its guidance suggests that runways must be designed to accommodate airplanes that will require the longest runway lengths at maximum certified takeoff weight (MTOW). Since the C-130s are the Hercules of airplanes, carrying out essential heavy duty missions, all runways in forward-deployed bases must be able to accommodate its take-off/landing characteristics; its maximum takeoff weight of 155,000 pounds (69,750 kg)<sup>162</sup> requires runways to be about 1,524 meters at maximum.<sup>163</sup>

Table 8 also suggests that the FRF runways should be built in a way that it anticipates future aircraft development. Currently, aircraft that are already in the development and testing phase are the *F-35* joint fighters with short take-off and vertical landing capabilities,<sup>164</sup> and *B-2* stealth bombers.<sup>165</sup> While the *F-35B* (*VL*) planes do not require very long runways, its vertical landing style requires special aluminum-alloy pads over concrete runways.<sup>166</sup> And with *B-2* stealth bombers included in the future force, runways must be built in accordance to its characteristics,<sup>167</sup> which will require runways to be approximately 2,039 meters at the maximum.

Even though the average runway length for aircraft to be stationed in Okinawa is 1,585 meters (to reflect Futenma's original capability) the FRF runway should be 2,039 meters per FAA guidance. At 2,039 meters, it is just shy of Futenma's 2,743 meter runway, but it well exceeds Henoko/FRF's agreed 1,600 meter runway. Without runways that reflect the reality of aircraft developments, the FRF will not be versatile and able to carry out missions in hybrid and conventional situations.

---

<sup>162</sup> "The Influence of Aircraft Development on Runway Design," accessed Sept. 9, 2014, <http://www.airforcebase.net/usaf/runways.html>. And "United States Navy Fact File: C-130 *Hercules* logistics aircraft," United States Department of the Navy, accessed Sept. 9, 2014, [http://www.navy.mil/navydata/fact\\_display.asp?cid=1100&tid=500&ct=1](http://www.navy.mil/navydata/fact_display.asp?cid=1100&tid=500&ct=1).

<sup>163</sup> It is capable of short takeoffs and landings from unprepared runways. "Lockheed Martin C130 Hercules," *Military-Today.com*, [http://www.military-today.com/aircraft/c130\\_hercules.htm](http://www.military-today.com/aircraft/c130_hercules.htm). And "C-130 Hercules," Lockheed Martin Corporation, accessed Sept. 9, 2014, <http://www.lockheedmartin.com/us/100years/stories/hercules.html>. And "KC-130J," *Globalsecurity.org*, accessed Sept. 9, 2014, <http://www.globalsecurity.org/military/systems/aircraft/kc-130j.htm>. And "KC-130J Hercules Tanker," *Aeroweb*, accessed Sept. 9, 2014, <http://www.bga-aeroweb.com/Defense/KC-130J-Tanker.html>.

<sup>164</sup> *F-35* joint strike fighters (short takeoff and vertical landing) are part of the future Joint Force. See "Text of the National Defense Authorization Act for Fiscal Year 2012," *Govtrack.us*, accessed Sept. 9, 2014, <https://www.govtrack.us/congress/bills/112/s1867/text>. Also US Department of Defense, *Quadrennial Defense Review 2014*, Washington D.C.: March 4, 2014, [http://www.defense.gov/pubs/2014\\_Quadrennial\\_Defense\\_Review.pdf](http://www.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf) (accessed Sept. 9, 2014). And Stephen Daggett, "CRS Report for Congress Prepared for Members and Committees of Congress Quadrennial Defense Review 2010: Overview and Implications for National Security Planning," May 17, 2010, <http://www.fas.org/sgp/crs/natsec/R41250.pdf>.

<sup>165</sup> Funds appropriated for B-2 related research and development. "Text of the National Defense Authorization Act for Fiscal Year 2012," *Govtrack.us*, accessed Sept. 9, 2014, <https://www.govtrack.us/congress/bills/112/s1867/text>.

<sup>166</sup> See Winslow Wheeler, "Marine F-35 Jump-Jet PR: *Caveatxpayer Emptor*," *Time*, March 27, 2013, <http://nation.time.com/2013/03/27/marine-f-35-jump-jet-pr-caveatxpayer-emptor/>. And Bill Sweetman, "Why Can't America's Newest Stealth Jet Land Like It's Supposed To?" *The Daily Beast*, May 26, 2014, <http://www.thedailybeast.com/articles/2014/05/26/why-can-t-america-s-newest-stealth-jet-land-like-it-s-supposed-to.html>.

<sup>167</sup> See "How long of a runway does the Northrop Grumman B-2 Spirit Bomber Jet need to take off?" *Find the Best*, accessed Sept. 9, 2014, <http://planes.findthebest.com/q/194/7735/How-long-of-a-runway-does-the-Northrop-Grumman-B-2-Spirit-Bomber-Jet-need-to-take-off>. And Cross, David, Joe Faber, and Raul Telles. "The B2 - Bomber: A Closer Look at the B2 Configuration (AOE 4124 - Team Project), Aerospace and Ocean Engineering, College of Engineering, Virginia Tech, accessed Sept. 9, 2014, [http://www.dept.aoe.vt.edu/~mason/Mason\\_f/B2Spr09.pdf](http://www.dept.aoe.vt.edu/~mason/Mason_f/B2Spr09.pdf).

In addition to building appropriate runways, the FRF must foster troop effectiveness and interoperability. The US Marine Corps is most effective when the Marines live, work, train, and operate together.<sup>168</sup> Former Defense Secretary Robert Gates explained in *Duty: Memoirs of a Secretary at War*, that: “I want to deploy with the team I trained with, know, and trust, not a bunch of strangers I just met.” Since Abe has relaxed the interpretation of the exercise of the right to collective self-defense, for the ease of future operations, the JSDF and the US Marines should begin living, working, and training together; the FRF will be the perfect training ground for US-Japan interoperability.

### *Utilities of the mega-float in three hypothetical situations*

The mega-float can enhance the overall purpose of the FRF by adding two elements: flexibility (i.e., mobility and resiliency), and energy self-sufficiency. The mega-float has unlimited capacities to assist a diverse set of operations – from providing disaster relief to deterring and confronting regional adversaries.

As mentioned, the concept of the mega-float is not new. It goes back to 5<sup>th</sup> century B.C. and was utilized as recent as the 1940s. During World War II, the US Seabees not only built pontoon causeways, but they also constructed mobile harbors, and manned what was known as the “Rhinos” on D-Day in 1944. Because Normandy Beach lacked functional harbors for allied forces to land, they built two floating harbors known as the “Mulberry.” The “Rhinos” were pontoon-type mega-floats powered by giant motors; they acted as high-speed ferries that carried soldiers and supplies to Normandy.<sup>169</sup> About 45,000 workers contributed to the construction of these mega-floats and they were completed in about a year.

In a future conflict in the Asia-Pacific, having a mega-float ready to go and docked at the FRF could provide unique options for the US-Japan alliance. It makes alternative maneuvers possible in the green-water zone, and adds to the Marine Corps’ ship-to-shore movement (STSM). One just need to imagine what the future environment might be and see the possibilities of what a mega-float/FRF could do.

### Hypothesized Background

In 2016, the FRF design added another layer to the V-shaped runways and construction moved forward without the consent of the mayor of Nago. By 2020, the double V-shaped runways – which consist of upper and lower decks – are fully operational. The upper deck has two 2,100 meter hard-surface runways, which reflects the development of aircraft in 2024; the lower deck has two 1,600 meter runways with special aluminum-alloy pads that can accommodate aircraft with vertical landing capabilities, for example, the *F-35B(VL)*.

---

<sup>168</sup> Gershaneck, Kerry. “Re-thinking Futenma, Revitalizing the Alliance.” *PacNet*, No. 1A (2013). <http://csis.org/files/publication/Pac131A.pdf>.

<sup>169</sup> “Mulberry Harbor,” D-Day Revisited, accessed Sept. 9, 2014, <http://d-dayrevisited.co.uk/d-day/mulberry-harbour.html>. And referenced official website of Naval History and Heritage Command. “Seabee History: Formation of the Seabees and World War II.” <http://www.history.navy.mil/faqs/faq67-3.htm>.

Additionally, Tokyo and Okinawa amended their original 2013 agreement to include a mega-float as part of the FRF. The mega-structure is connected to Camp Schwab via two floating bridges. It contains alternative supply and logistic facilities. It also is mobile because it has an electric motor for the purpose of enhancing the Marine's STSM by simply reversing the construction process of the mega-float pieces to make it mobile. With electric motors installed in certain pieces of the mega-float, during emergencies, it could be utilized like electric boats.

When the mega-float is docked at bay, it is one giant piece of land. It is capable of harnessing solar and wind power, and mixing them with a base fuel such as LNG so that the mega-float can serve as a charging station for the mobile pieces with electric motors.<sup>170</sup> Furthermore, with electricity generated at the mega-float, any excess energy can be transmitted back to mainland Okinawa.

### Scenario 1: Humanitarian/Disaster Relief

States continue to look to the US military for help in conducting large-scale relief missions after national disasters. In the last decade alone, severe weather across Asia-Pacific has destroyed properties, displaced, and caused deaths to tens of thousands of East Asians. Governments in the Asia-Pacific continue to struggle to mitigate damage and casualties from these disasters.

For instance, in 2004, a severe storm killed 1,000 people in the southern Philippines. In 2008, 78,000 people died, and 56,000 went missing after a cyclone swept through Myanmar.<sup>171</sup> In 2009, typhoon Ketsana left Vietnam, Laos, Cambodia, and the Philippines with more than 300 casualties, 170,000 damaged homes, and 350,000 people evacuated.<sup>172</sup> In 2011, heavy monsoon rains caused massive floods in Thailand where more than 600 lives were lost;<sup>173</sup> meanwhile, one-third of Cambodia, including 18 cities, was under flood water.<sup>174</sup> In 2013, up to 10,000 died from typhoon Haiyan hit the southern Philippines.<sup>175</sup>

Fast forward to 2022, Taiwan calls upon the Marines to help with disaster relief after catastrophic earthquake followed by heavy flood that claimed more than 5,000 lives and resulted in a total loss of \$20 billion. In response to Taipei's request, the US Marine Corps dispatched

---

<sup>170</sup> Rebekah Kebede, "Exxon BHP plan world's largest floating LNG plant off Australia," *Financial Post*, April 2, 2013, [http://business.financialpost.com/2013/04/02/exxon-bhp-plan-worlds-largest-floating-lng-plant-off-australia/?\\_\\_lsa=fe3a-dd75](http://business.financialpost.com/2013/04/02/exxon-bhp-plan-worlds-largest-floating-lng-plant-off-australia/?__lsa=fe3a-dd75). And see "Great Green Fleet," US Department of the Navy, accessed Sept. 9, 2014, <http://greenfleet.dodlive.mil/energy/great-green-fleet/>.

<sup>171</sup> "World Weather Related Timeline," CNT Group, accessed Sept. 9, 2014, <http://www.mapreport.com/subtopics/d/h.html>.

<sup>172</sup> "Vietnam: Typhoon Ketsana Kills At Least 41," *The World Post*, Sept. 30, 2009, [http://www.huffingtonpost.com/2009/09/30/vietnam-typhoon-ketsana-k\\_n\\_304051.html](http://www.huffingtonpost.com/2009/09/30/vietnam-typhoon-ketsana-k_n_304051.html). And see Rohan Sullivan, "Ketsana leaves more than 300 dead across SE Asia," *The Seattle Times*, Sept. 29, 2009, [http://seattletimes.com/html/nationworld/2009969481\\_apasasiastorm.html](http://seattletimes.com/html/nationworld/2009969481_apasasiastorm.html).

<sup>173</sup> Lance Cpl. Chelsea Flowers, "Marines respond to Thailand flood crisis," Marines Blog, The Official Blog of the United States Marines Corps, Dec. 8, 2011, <http://marines.dodlive.mil/2011/12/08/marines-respond-to-thailand-flood-crisis/>.

<sup>174</sup> Windsor Genova, "Myanmar Airlifts Relief Goods to Flooded Cambodia," *International Business Times*, Nov. 4, 2011, <http://au.ibtimes.com/articles/243147/20111104/cambodia-floods-myanmar-relief-aid.htm#.U6CM3Sinfeg>.

<sup>175</sup> World Weather Related Timeline," CNT Group, accessed Sept. 9, 2014, <http://www.mapreport.com/subtopics/d/h.html>.

*MV-22 Osprey* and *K-130* cargo planes and, along with hundreds of marines from Okinawa for search and rescue. Meanwhile, the mini-mega-float docked at FRF was dispatched. Already equipped with necessary supplies and medical facilities (i.e., no time was wasted on loading), the mini-mega-floats detach and, like a mini-Mulberry, are propelled toward the disaster area.

## Scenario 2: Deterring a Regional Aggressor

The global security environment changed dramatically between 2015 and 2021. In Northeast Asia, the Pyongyang government fell after Kim Jung-un's assassination; warlords filled the power vacuum and split the country into two regions. In Southeast Asia, China dominated the South China Sea in 2017. Soon after, it seized the Senkaku/Diaoyu island, invaded Okinawa, and captured Taiwan. These aggressions sent a ripple effect across Asia: Seoul submitted to Beijing; Tokyo developed closer military ties with the new North Korean leadership; finally ASEAN dissolved as the US contemplated its options.

The US and its allies now face broken lines of defense in the Western Pacific. But the mega-float/FRF is seen as a deterrent asset because the mega-float can offer creative defense mechanisms and unique offensive operations via its flexibility and mobility.

Defensively, the mega-float/FRF can function like ghost vessels. It has invisibility against unmanned aerial vehicles (UAV) and war-fighting vessels. The facility and the Marines are equipped with anti-thermal signature,<sup>176</sup> anti-electromagnetic wave materials,<sup>177</sup> and anti-space automatic detection system (S-AIS).<sup>178</sup> For example, metal in the mega-float should be able to block electromagnetic waves.

The mega-float/FRF is flexible because it can detach from the FRF to operate independently. The main body of the mega-float/FRF is supported by jackets drilled to the sea bed and thus can handle unlimited weight. The mini-mega-floats<sup>179</sup> are built in the perimeter of the main body and can detach from the main body to operate independently via remote control.

---

<sup>176</sup> Adam Harvey, "Stealth Wear," *de zeen Magazine*, June 23, 2013, <http://www.dezeen.com/2013/06/23/stealth-wear-anti-drone-clothing-by-adam-harvey/>.

<sup>177</sup> "anti- electromagnetic wave uniform The product of anti-electromagnetic radiation clothing has been determined by many authorized units (e.g. the Chinese Military Hygeian Testing Center, the China Academe of Space-flight Medication and the Beijing Academe of Labor Protection ), that product has an excellent electromagnetic wave shielding function, which electromagnetic wave shielding efficiency can reach over 20 db attenuations. Electromagnetic radiation reduction rate is over 85%. Occupancy Shielding bandwidth is about 500 KHz-6GHz. It has many other desirable properties such as comfortable to wear, durable to wash, anti-static, breathable and soft." Kadhim Shubber, "This signal-jamming coat lets its wearer 'disappear'," *Wired*, June 16, 2014, <http://www.wired.co.uk/news/archive/2014-06/16/chbl-jammer-coat>. And referenced "Anti-electromagnetic wave Textile fabric and Clothing," *Tex Index.Com*, accessed Sept. 9, 2014, <http://www.texindex.com/Sell/Detail/anti-electromagnetic-wave-textile-fabric-and-clothing-94012.html>.

<sup>178</sup> Christina Munnell, "Satellites Seen As Critical to Maritime Security (UPDATED)," *National Defense*, June 17, 2014, <http://www.nationaldefensemagazine.org/blog/Lists/Posts/Post.aspx?ID=1533>.

<sup>179</sup> It is important to conduct a buoyancy calculation based on the total weight capacity of the mini-mega-floats. Engineering analysis is needed to determine that the connections between the mini mega-floats and the main body are sufficiently strong.

Propelled by rechargeable electric motors, the mega-float can function like a silent, high-speed boat.<sup>180</sup> This remote control mobility makes the mega-float the 21<sup>st</sup>-century “Rhinos” and “Mulberry”<sup>181</sup> as it adds to the Corps’ ship-to-shore movement (STSM) and amphibious capabilities.<sup>182</sup> Logistically, the main FRF is equipped with power stations that generate electricity using mixed fuels. It also has energy grids for recharging attached mini-mega-floats and assets from the Great Green Fleet.

After detachment, the mini-mega-floats communicate via traditional and alternative communication systems. The traditional system uses existing space and cyber assets. The alternative is new technology that functions as a back-up in case space and cyber assets are damaged. With alternative communication and navigation systems, the US can anticipate unknowns: Communication failure, i.e., weather-related (e.g., fog, rain, and darkness); and, personnel failure, i.e., the “right” number and the type of skills can affect adequate communication; and, intelligence failure.

To effectively deter aggressors, one must show strength and accept a level of unknowns. The mega-float’s defense and offense capabilities are key to deterring regional aggressor(s). Its ability to function on renewable energy is unique because it is self-sustaining. Moreover, the mega-float can add value by being equipped with antisubmarine technology, namely asdic/sonar, and be fitted with weapons such as depth charges, mines, or antisubmarine missiles.

### Scenario 3: War in the Asia-Pacific

No one can predict when and how a war will begin and unfold. But when it does, it is essential to remain as flexible as possible. Defense of the second island chain would be crucial, because it needs to hold until the first island chain mends itself.

Mega-floats would be utilized to, first, contain and destroy PLAN ships between the first and second island chains; second, to have STSM and amphibious capabilities to invade shores and retake islands, if need be.

### **Conclusion**

There is continuity in the US national security strategy since the end of World War II. Peace, prosperity, and democracy for all in the 21<sup>st</sup> century, the US continues its commitment to

---

<sup>180</sup> ““We offer the first non-custom boat ever to reach a plane with an electric motor,” Boesch says. The 80 kilowatt-strong (108 horsepower) electric motor reaches a top speed of nearly 55 kilometers per hour (34 miles per hour), and a variant with 120 kilowatts (162 horsepower) under the hood can even hit 60 kph. “No one else makes faster electric boats that aren’t custom... the shipyard’s most ambitious project – an energy grid for electric boats – isn’t coming along. Stashed in a drawer at the Boesch yard lie approved building plans for a large solar installation on the boat-factory grounds. “It would produce enough energy so that 15 electric boats could be charged with solar power,” the junior manager says. “Then they wouldn’t only be quick, quiet and emission-free, but really clean too.”” Tom Grünweg, “Rechargeable Recreation: Electric Boat Market Takes Off in Switzerland,” Spiegel Online International, Oct. 26, 2011, <http://www.spiegel.de/international/zeitgeist/rechargeable-recreation-electric-boat-market-takes-off-in-switzerland-a-793927.html>.

<sup>181</sup> “Mulberry harbor,” Wikipedia, last modified Aug. 19, 2014, [http://en.wikipedia.org/wiki/Mulberry\\_harbour](http://en.wikipedia.org/wiki/Mulberry_harbour).

<sup>182</sup> Col Fuqea, David C, US Marine Corps (Retired). “Sustaining Our Amphibious Capability.” *Proceedings Magazine*, Vol 140/3/1 (March 2014): 333. <http://www.usni.org/magazines/proceedings/2014-03/sustaining-our-amphibious-capability>.

allies and partners around the world. In the Asia-Pacific, the US “rebalance” seeks to strengthen ties with allies and partners in the spheres of economy, diplomacy, and strategy. In the strategic realm, the US-Japan alliance remains the cornerstone of Asia’s peace and security.

The US-Japan alliance is on path and evolving, and Japan is changing with it. Though most people in Japan and in Okinawa hold pacifist beliefs, their central and local governments have proven to be reliable allies.

### *Disconnects and future challenges*

Interviews in 2012 revealed a general disconnect between *all stakeholders*, between Tokyo and Okinawa politics; between Washington and USMC; and finally, between ministries in Japan.

The first observable disconnect is between Tokyo and Okinawa politics. Tokyo and Okinawa stakeholders do not share the same goal and, they did not seem to be on the same page. Interviews revealed that most mainland Japanese perceive Okinawans as different – culturally. Okinawa was the former Ryukyu kingdom; over the centuries, the people on the island have incorporated certain Japanese and Chinese cultures into their own. Some Okinawans feel discriminated by the Japanese and betrayed by Prime Minister Hatoyama’s campaign promise a grant to relocate the US military out of Okinawa. Based on interviews, general feelings about Futenma are mixed. That said, the political distrust between Tokyo and Okinawa is clear, and it is partly fueled by the cultural disconnect.

Against this backdrop, interviews indicate that: First, OPG received notice of relocating Futenma to a sea-based facility, but did not know implementation details. Second, FRF project managers did not observe the appropriate etiquette for Okinawa’s political system. To navigate Okinawa politics and to properly communicate a Tokyo-based policy to the people in Okinawa, the process should proceed as follows: policy should be communicated on an informal basis to the Okinawa governor; after the governor approves the idea then there should be time for the governor to communicate the idea to other local stakeholders; after the governor and local stakeholders reach an agreement, then the ministry in-charge should design a implementation plan to inform the public; and hold a public meeting to announce the policy and communicate to the public how the policy will be implemented.

The government should have implementation plans to the public, and allow feedback from residents. By utilizing a public platform, the ministry in-charge has an opportunity to explain the policy. Interviews suggested project managers failed to do so and they repeatedly communicated an unpopular policy without concrete plans.

Furthermore, the layers of Okinawa politics need to be addressed. Interviews identified four actors in local politics that can alter the future of the Henoko plan: 1) the Okinawa governor, 2) the Prefectural Assembly, 3) the mayor of Nago City, and 4) the Nago City Assembly. Since 1996, the FRF issue has swung from *reluctant approval* by the aforementioned actors to the current *disapproval by a majority* (See table 5).



The second is the differences in opinion on Henoko's feasibility. According to interviews in Tokyo and Okinawa, without US base closures the opposition in Okinawa will not ease, and the FRF cannot progress unless OPG approves. Opinions diverge, however, when asked about 1) the FRF construction method, 2) Henoko's operational feasibility. Some interviewees said that the mega-float idea was rejected by the US side, citing operational feasibility issues – both government and industry held this view. They suggested that the US Marines were the loudest objector to the mega-float idea. Second, the landfill method prevailed because the system supports it. The interviewees suggested that the FRF is considered public-works; therefore, the bidding process does not favor private companies such as shippers, but favors construction companies that specialize in land reclamation. Finally, the landfill method suits Okinawa politics because instead of allowing the mainland shipping industry to seize most benefits, Okinawa's economy would profit more from the FRF.

Opinions were divided on whether Henoko would be operationally feasible. Those who said “yes” agreed with the Roadmap, which states both sides have agreed on FRF operational capability, and thus the new runways will not accommodate fixed winged aircraft, namely fighter jets.<sup>183</sup> Overall, Japanese interviewees echoed the official stance that Henoko is operationally feasible, with the understanding that the US does not need an exact replica of Futenma's capabilities. However, some – mainly those associated with the US Marines – insisted that the FRF should maintain Futenma's current operational capability to preserve its historical usage, which is to act as the UNC rear command; they did not believe the Henoko plan meets operational standards.

Finally, there is disconnect between Japanese ministries. Interviews revealed that both the Ministry of Defense (MOD) and the Ministry of Economy, Trade and Industry (METI) should have been involved in the FRF from the beginning. The FRF is a military and an economic development project, and therefore, it requires joint vision from those two ministries to implement the policy.

For example, the Henoko plan lies in Nago – a city designated as a special financial business and a special IT business zone – but this is problematic for the FRF. Nago's special economic status means that financial and IT businesses are setting up shop and attracting more residents. Interviews suggest in either ministry coordinates with the other, which means each ministry will pursue its own goals that may not complement the other's policy. Without a joint vision that combines military and economic development goals for Nago, the two ministries would create negative externalities like those at Ginowan City, e.g., encroachment.

---

<sup>183</sup> “The United States and Japan will locate the FRF in a configuration that combines the Henoko-saki and adjacent water areas of Oura and Henoko Bays, including two runways aligned in a “V”-shape, each runway having a length of 1,600 meters plus two 100-meter overruns. The length of each runway portion of the facility is 1,800 meters, exclusive of seawalls...This facility ensures agreed operational capabilities while addressing issues of safety, noise, and environmental impacts.” US Forces Japan. “United States – Japan Roadmap for Realignment Implementation.” May 1, 2006. <http://www.usfj.mil/Documents/UnitedStates-JapanRoadmapforRealignmentImplementation.pdf>. According to the 2012 Defense of Japan published by Japan Ministry of Defense, the “USG does not intend to operate fighter aircraft from this [FRF] facility.” Referenced Ministry of Defense of Japan. *Defense of Japan 2012*. (Tokyo: Erklaren Inc., 2012), 434.

It is crucial that all stakeholders bridge this gap by setting similar goals and coordinating. Tokyo, Okinawa, and the US need to see themselves as teammates. If they behave like rivals, then resources will be pulled in different directions and squandered.

*Preventive measures: enact and enforce zoning laws*

Japan and Okinawa need to adopt strong zoning laws. Negative externalities generated by USFJ bases can be mitigated if GOJ and/or OPG can enact and enforce laws and regulations that prevent encroachment around military bases, and inform residents about the areas they live. Measures must be in place to decrease the number of lawsuits in connection with USFJ activities. A good program to reference is the AICUZ, a US federal noise program evaluated by the US Environmental Protection Agency.<sup>184</sup> Moreover, if the US can work with GOJ and OPG on compliance, future challenges at Nago may be avoided.

*Decrease crimes committed by members of US military*

The US Marine Corps are often blamed for the unimplemented policy because they insist that the FRF include certain capabilities. The service was also blamed for “making Futenma a problem” because residents often associate the Marines with high-profile crimes in Okinawa. Even though the number of crimes committed by USFJ in Okinawa is lower in comparison to general crime rates in selected US cities, any misconduct in the military is a problem.

Amid recent changes to the evaluation processes of top US military officers, the military has the opportunity to rethink how to enforce better personnel conduct on and off base. According to Gen Maren Dempsey, chairman of the Joint Chiefs of Staff, the changes to evaluation criteria seek to retain US military personnel who are both competent in the application of military power, and of character.<sup>185</sup> Crimes committed by the US armed forces in any foreign land deserve high-level attention; military recruitment, management, and personnel conducts must be evaluated on a more regular basis by third party personnel.

*Strengthening the US-Japan alliance: consider a mega-float demonstration project*

Mega-float can strengthen the alliance. First, it provides a platform for discussion of the current status of Futenma and the FRF. During interviews, the moment the mega-float was mentioned, interviewees immediately noted that, “the idea has already been rejected.” Despite that initial reaction, people were generally interested in hearing about its possibilities. Maintaining an ongoing dialogue on basing issues in Okinawa is crucial to managing US-Japan relationships.

---

<sup>184</sup> US Environmental Protection Agency. Department of Defense Air Installations Compatible Use Zones (AICUZ) Program (April 1977, EPA 550/9-77-353). Available at <http://nepis.epa.gov/Exe/ZyNET.exe/9100OMFL.PDF?ZyActionP=PDF&Client=EPA&Index=1976%20Thru%201980&File=D%3A\ZYFILES\INDEX%20DATA\76THRU80\TXT\00000022\9100OMFL.txt&Query=&SearchMethod=1&FuzzyDegree=0&User=ANONYMOUS&Password=anonymous&QField=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&Docs=>; Accessed May 21, 2013.

<sup>185</sup> Thom Shanker, “Conduct at Issue as Military Officers Face a New Review,” *The New York Times*, April 13, 2013, <http://www.nytimes.com/2013/04/14/us/militarys-top-officers-face-review-of-their-character.html?pagewanted=1>.

Second, the mega-float idea can provide an opportunity for the US and Japan to cooperate in research and development with 21<sup>st</sup>-century technology: The possibility of constructing a mega-float for military use that is “invisible” and self-sustainable. A joint development project to design and build a demonstration mega-float combines expertise from modern architecture, offshore engineering, shipbuilding, electric motors, clean energy, and aerospace. It won’t be easy, but nonetheless, a joint project for the US and Japan can enhance information sharing capabilities and strengthen bilateral relations.

Indeed, for 17 years, numerous internal obstacles and disagreements have stalled SACO’s call to relocate Futenma to a sea-based facility. But despite these challenges, FRF managers have continued to work toward implementation and accomplished a major milestone. On Gov. Nakaima’s decision to issue the landfill permit, US Sen. John McCain called it “a major achievement for Okinawa, for Japan, and for the US-Japan alliance.”<sup>186</sup> And as of August 2014, Tokyo and Okinawa are working together to begin FRF construction in the Henoko Bay.

To keep the momentum going, all stakeholders must better manage relations through integrity and flexibility in their policy implementations. (See table 11.) More importantly, all must remember that the *greater good* can only be delivered on the backs of a strong US-Japan alliance – and the alliance cannot work without Okinawa.<sup>187</sup> As Gov. Nakaima summed up in his December 25, 2013 statement on Asia-Pacific security, the US-Japan alliance, and US military base issues:

*“...we lie on the boundaries of the Asia-Pacific region, and therefore have a great interest in the stability and prosperity of this region. It would be a source of great pride if we were able to make a contribution in that regard. The people of Okinawa Prefecture are working hard in that regard, and we too are diligently engaged, although our prefecture is rather small. I am engaged in my work with a firm feeling that the issue of the bases on Okinawa is useful for the security of Japan as a whole. Without close Japan-US relations, Okinawa would also have a bumpy ride. I believe that efforts on the part of the Prime Minister and the Chief Cabinet Secretary to ensure strong Japan-US relations will be important for the resolution of base issues in Okinawa.”*

---

<sup>186</sup> “Press Release: Statement by Senator McCain on the Governor of Okinawa’s decision to sign landfill permit for Futenma Replacement Facility,” US Senator John McCain, accessed Sept. 12, 2014, <http://www.mccain.senate.gov/public/index.cfm/2013/12/statement-by-senator-mccain-on-the-governor-of-okinawa-s-decision-to-sign-landfill-permit-for-futenma-replacement-facility>.

<sup>187</sup> See table 13; reference objectives set in the Okinawa Consolidation Plan. *Consolidation Plan for Facilities and Areas in Okinawa*, (Washington DC: US Department of Defense, April 2013). Available at <http://www.defense.gov/news/Okinawa%20Consolidation%20Plan.pdf>; Accessed May 21, 2013.

## Addendums

**Table 1: Judicial Cases Involving US Forces in Okinawa (1940s-2013)**

	Number of Cases	Annual Average	Monthly Average
<b>Incidents</b> (1972 – 2011)	<b>1,609</b>	<b>41 cases per year</b> (1,609 ÷ 39 years)	<b>3 cases per month</b> (41 ÷ 12 months)
<b>Criminal Cases</b> (1972 – 2011)	<b>5,747</b>	<b>147 cases per year</b> (5,747 ÷ 39 years)	<b>12 cases per month</b> (147 ÷ 12 months)
<b>Traffic Cases</b> (1981 – 2011)	<b>2,764</b>	<b>92 cases per year</b> (2,764 ÷ 30 years)	<b>8 cases per month</b> (92 ÷ 12 months)
<b>1945-</b>	“...rapes have been occurring on Okinawa ever since US forces occupied the island in 1945. The number of rapes and other crimes committed by US servicemen on Okinawa between 1972 and 2000 was 5,006, or roughly one every other day.” <sup>188</sup>		
<b>1948-</b>	See link for a list of crimes committed by US service members compiled by a Japanese source. <sup>189</sup>		
<b>1955-</b>	“At least 34 murders committed by US military personnel since 1955, when six-year-old Yumiko Nagayama was abducted, raped, and murdered by a US Air Force sergeant. Twenty-three of the victims have been Okinawan women or girls (another was a woman serving in the US military).” <sup>190</sup>		
<b>2005-2013</b>	<p>The Associated Press obtained and analyzed 1,000 documents through the Freedom for Information Act (FOIA) on members of USFJ who committed sex crimes; they found that cases filed between 2005 and 2013 “a pattern of random and inconsistent judgments:</p> <ul style="list-style-type: none"> <li>• The Marines were far more likely than other branches to send offenders to prison, with 53 prison sentences out of 270 cases. By contrast, of the Navy's 203 cases, more than 70 were court-martialed or punished in some way. Only 15 were sentenced to time behind bars.</li> <li>• The Air Force was the most lenient. Of 124 sex crimes, the only punishment for 21 offenders was a letter of reprimand.</li> <li>• Victims increasingly declined to cooperate with investigators or recanted, a sign they may have been losing confidence in the system. In 2006, the Naval Criminal Investigative Service, which handles the Navy and Marine Corps, reported 13 such cases; in 2012, it was 28.”<sup>191</sup></li> </ul>		
<b>2006-2013</b>	Based on DOD internal documents obtained through FOIA, another Associated Press reports that “more than 620 serious sex-crime allegations against military personnel, at least 323 of the alleged victims also were in the military. Civilians were the accusers in 94 cases, but in nearly 200 cases the alleged victim's status was unclear.		

<sup>188</sup> Johnson, Sheila K. “Of Sex, Okinawa, and American Foreign Policy.” *JPRI Occasional Paper*, no. 23 (September 2001). <http://www.jpri.org/publications/occasionalpapers/op23.html>.

<sup>189</sup> “List of Main Crimes Committed and Incidents Concerning the US Military on Okinawa – Excerpts,” Okinawa Peace Network of Los Angeles, accessed Sept. 12, 2014, [http://www.uchinanchu.org/history/list\\_of\\_crimes.htm](http://www.uchinanchu.org/history/list_of_crimes.htm).

<sup>190</sup> Rick Mercier, “Way off base: The shameful history of military rape in Okinawa,” *On The Issues Magazine*, Winter 1997, [http://www.ontheissuesmagazine.com/1997winter/w97\\_Mercier.php](http://www.ontheissuesmagazine.com/1997winter/w97_Mercier.php).

<sup>191</sup> Yuri Kageyama and Richard Lardner, “Documents Reveal Chaotic Military Sex-Abuse Record,” Feb. 9, 2014, *The Associated Press*, <http://bigstory.ap.org/article/documents-reveal-chaotic-military-sex-abuse-record-2>.

	Among US military sexual assault reports worldwide in the 2011-12 fiscal year, 2,949 of the 3,604 victims were service members, according to the department's annual report to Congress on sexual assault in the military.” This findings came from the Naval Criminal Investigative Service, which handles the Navy and the Marine Corps cases in Japan. <sup>192</sup>
--	--

\*Sources: Regional Security Policy Division Executive Office of the Governor, Okinawa Prefectural Government, October 2012 (see green highlighted area for OPG sources); Japan Policy Research Institute; On the Issue Magazine; *The Associated Press*.

**Table 2: Compare Crime Statistics in US Cities and in Okinawa**

Place	Population	Area (km2)	Total Crimes Reported in 2012	Total Rape Reported in 2012	Average Crime Reported per year in Okinawa
San Diego, California	1,338,477	964.50	36,096	172	
Phoenix, Arizona	1,485,509	1,338	67,849	263	
San Antonio, Texas	1,380,123	1,205	87,659	289	
Okinawa, Japan	1,419,924	1,207.99	7,356 (incidents and crimes reported within a 39 year span)		188

\*Sources: The FBI (Federal Bureau of Investigations)<sup>193</sup> and Okinawa Prefecture Statistic Division<sup>194</sup>

**Table 3: Quick Facts on Futenma: Mission, Land Mass, Facilities, and Costs**

Mission	<ul style="list-style-type: none"> <li>• Designated as one of the seven bases under the UNC-Japan Status of Forces Agreement (SOFA) to support UNC-Rear. <ul style="list-style-type: none"> <li>○ “The primary functions as UNC-R are to insure the maintenance in force of the UN Forces - Government of Japan SOFA and to accomplish, in conjunction with military, civilian, and government agencies in Japan, necessary action concerning matters of interest to UNC.”<sup>195</sup></li> </ul> </li> <li>• “To fulfill WESTPAC Operational Support Airlift (OSA) requirements in support of III MEF/MCBJ.”<sup>196</sup> <ul style="list-style-type: none"> <li>○ The Marine Air Group-36 provides tactical fixed and rotary wing aircraft. The Group operates approximately 70 aircrafts that include:</li> </ul> </li> </ul>
---------	---

<sup>192</sup> “AP Findings on US Military Sex Crimes in Japan,” *The Associated Press*, Feb. 9, 2014, <http://bigstory.ap.org/article/ap-analysis-us-military-sex-crimes-japan>.

<sup>193</sup> For crime statistics on Phoenix, Arizona and San Diego, California, see “January to June 2012-2013: Offenses Reported to Law Enforcement,” The FBI, accessed Sept. 12, 2014, [http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2013/preliminary-semiannual-uniform-crime-report-january-june-2013/tables/table-4-cuts/table\\_4\\_offenses\\_reported\\_to\\_law\\_enforcement\\_by\\_state\\_alabama\\_through\\_california\\_2013.xls](http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2013/preliminary-semiannual-uniform-crime-report-january-june-2013/tables/table-4-cuts/table_4_offenses_reported_to_law_enforcement_by_state_alabama_through_california_2013.xls). For crime statistics on San Antonio, Texas, see “January to June 2012-2013: Offenses Reported to Law Enforcement,” The FBI, accessed Sept. 12, 2014, [http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2013/preliminary-semiannual-uniform-crime-report-january-june-2013/tables/table-4-cuts/table\\_4\\_offenses\\_reported\\_to\\_law\\_enforcement\\_by\\_state\\_oklahoma\\_through\\_wisconsin\\_2013.xls](http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2013/preliminary-semiannual-uniform-crime-report-january-june-2013/tables/table-4-cuts/table_4_offenses_reported_to_law_enforcement_by_state_oklahoma_through_wisconsin_2013.xls).

<sup>194</sup> Okinawa Prefecture Statistic Bureau [沖縄県企画部統計課], accessed Sept. 12, 2014, <http://www.pref.okinawa.jp/toukeika/>.

<sup>195</sup> “US Air Force Yokota Air Base. “UNC celebrates the 67th Anniversary of the United Nations in Japan.” Last updated Nov. 28, 2012. <http://www.yokota.af.mil/news/story.asp?id=123327915>.

<sup>196</sup> “Marine Corps Air Station Futenma” Marines: The official website of the United States Marine Corps, accessed Sept. 12, 2014, <http://www.mcasfutenma.marines.mil/>.

	<ul style="list-style-type: none"> <li>▪ CH-46 and CH-53 helicopters</li> <li>▪ KC-130 aerial refueling airplanes</li> <li>• “To provide, maintain and operate all airfield facilities and services for the safe and efficient operational support of both 1st Marine Aircraft Wing and transient aircraft.”<sup>197</sup> <ul style="list-style-type: none"> <li>○ The 1<sup>st</sup> Marine Air Wing is the air component of the III Marine Expeditionary Force</li> <li>○ Marine Air Control Group 18 <ul style="list-style-type: none"> <li>▪ Supports Marine aircraft operations</li> </ul> </li> </ul> </li> <li>• To provide, maintain and operate all working and recreational facilities and services for personnel living or working aboard Futenma.<sup>198</sup></li> </ul>
Area	<ul style="list-style-type: none"> <li>• 1,188 acres of land <ul style="list-style-type: none"> <li>○ Approximately 475.2 acres (40 percent) used for: <ul style="list-style-type: none"> <li>▪ Runways</li> <li>▪ Taxiways,</li> <li>▪ Aircraft parking</li> </ul> </li> <li>○ Approximately 712.8 acres (60 percent) used for: <ul style="list-style-type: none"> <li>▪ Air operations <ul style="list-style-type: none"> <li>• Aircraft wash rack (1)</li> <li>• Maintenance facilities</li> <li>• Vehicle maintenance facilities</li> <li>• Fuel storage facilities</li> <li>• Hazardous waste storage (1) and transfer facility (1)</li> <li>• Control tower (1)</li> <li>• Armory (1)</li> <li>• Other facilities</li> </ul> </li> <li>▪ Personnel support facilities</li> <li>▪ Housing (married/single facilities)</li> <li>▪ Administrative activities</li> </ul> </li> </ul> </li> </ul>
Facilities	<ul style="list-style-type: none"> <li>• Marine Aviation Group – MAG 36 <ul style="list-style-type: none"> <li>○ Logistics Squadron 36 (1) - MALS–36</li> <li>○ Helicopter Squadrons (HMM–262; VMGR–152; VMM–265) <ul style="list-style-type: none"> <li>▪ Heavy/ Cargo (CH-53)</li> <li>▪ Medium/ Cargo (CH-46) (1 squadron) [replaced by MV-22]</li> <li>▪ Osprey (MV-22) (1 squadron)</li> <li>▪ Light/Attack (AH-1)</li> <li>▪ Utility (UH-1)</li> <li>▪ KC-130 tankers (12 aircrafts): VMGR – 152</li> <li>▪ Others</li> </ul> </li> </ul> </li> <li>• Marine Air Control Group 18 – MACG 18 <ul style="list-style-type: none"> <li>○ Marine Air Squadron 4 – MACS 4</li> <li>○ Marine Air Support Squadron – MASS 2</li> <li>○ Marine Tactical Air Command Squadron – MTACS 18</li> <li>○ Marine Wing Communications Squadron – MWCS 18</li> <li>○ Personnel Support Detachment – PSD 18</li> </ul> </li> </ul>

<sup>197</sup> “Marine Corps Air Station Futenma” Marines: The official website of the United States Marine Corps, accessed Sept. 12, 2014, <http://www.mcasfutenma.marines.mil/>.

<sup>198</sup> “Marine Corps Air Station Futenma” Marines: The official website of the United States Marine Corps, accessed Sept. 12, 2014, <http://www.mcasfutenma.marines.mil/>.

Runway and Taxiway	<ul style="list-style-type: none"> <li>• 9,000 feet long runway (1)</li> <li>• 9,000 feet long taxiway paralleled to the runway (1)</li> </ul>	
<b>COSTS</b>		
	<b>United States</b>	<b>Japan</b>
<b>Operations and Maintenance Costs</b>	\$35.6 million per year <sup>199</sup>	-
<b>Refurbishment Costs</b>	\$165 million <sup>200</sup>	“To be determined” is denoted by “X” <sup>201</sup>
<b>Total</b>	\$2.8 million + X <sup>202</sup>	X

**Table 4: Timeline on the Relocation of USMC Futenma Airfield (1995-2014)**

Date	Barriers (B) and Progress (P)  (B in orange and P in blue)	Details
02/1993		A 13-year-old American girl was raped by an American sailor. <sup>203</sup>
09/1995		Three US servicemen were convicted of raping a Japanese schoolgirl. That incident in part prompted a 1996 agreement between the US and GOJ to either close or reduce the size of the 11 US military facilities that cover more than 20 percent of Okinawa property. <sup>204</sup>
04/1996	US/GOJ	Prime Minister Hashimoto and US Ambassador Mondale announced on

<sup>199</sup> In a 2013 GAO report, the Marine Corps estimated about \$178 million for operations and maintenance costs at Futenma over the next 5 years. That is approximately 35.6 million per year from 2014-2019. In 1998, it was estimated that the United States spends about \$2.8 million per year for maintenance at Futenma. US General Accounting Office, *Overseas Presence: Issues Involved in Reducing the Impact of the US Military Presence on Okinawa*, Norman J. Rabkin, Washington D.C.: GAO/NSIAD-98-66, March 3, 1998, <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-98-66/pdf/GAOREPORTS-NSIAD-98-66.pdf> (accessed May 20, 2013).

<sup>200</sup> In order to sustain Futenma until 2022, according to a 2013 GAO report, the Marine Corps estimated \$165 million in funding requirement for refurbishment projects at Futenma. Based on the same report, US government sustainment funding for Futenma for FY 2013-2015 is \$36 million. Funding for FY2016 and beyond is undetermined. US Government Accountability Office, *Defense Management: More Reliable Cost Estimates and Further Planning Needed to Inform the Marine Corps Realignment Initiatives in the Pacific*, by Brian Lepore, Washington D.C.: GAO-13-360, June 11, 2013, <http://www.gao.gov/assets/660/655142.pdf> (accessed Sept. 9, 2014). In the 1998 GAO report, \$13.6 million in US funding was requested for improvement projects at Futenma because GOJ had cancelled that funding. This cost is to sustain Futenma for 10 years. US General Accounting Office, *Overseas Presence: Issues Involved in Reducing the Impact of the US Military Presence on Okinawa*, Norman J. Rabkin, Washington D.C.: GAO/NSIAD-98-66, March 3, 1998, <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-98-66/pdf/GAOREPORTS-NSIAD-98-66.pdf> (accessed May 20, 2013).

<sup>201</sup> According to a 2013 GAO report, GOJ sustainment funding during FY 2013-2015 is \$28 million. Funding for FY 2016 and beyond is undetermined. US Government Accountability Office, *Defense Management: More Reliable Cost Estimates and Further Planning Needed to Inform the Marine Corps Realignment Initiatives in the Pacific*, by Brian Lepore, Washington D.C.: GAO-13-360, June 11, 2013, <http://www.gao.gov/assets/660/655142.pdf> (accessed Sept. 9, 2014).

<sup>202</sup> US General Accounting Office, *Overseas Presence: Issues Involved in Reducing the Impact of the US Military Presence on Okinawa*, Norman J. Rabkin, Washington D.C.: GAO/NSIAD-98-66, March 3, 1998, <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-98-66/pdf/GAOREPORTS-NSIAD-98-66.pdf> (accessed May 20, 2013).

<sup>203</sup> See James Sterngold, “Sasebo Journal; ‘Quiet’ Navy Base in Japan: Now, the Shock Waves,” *The New York Times*, Feb. 24, 1993, <http://www.nytimes.com/1993/02/24/world/sasebo-journal-quiet-navy-base-in-japan-now-the-shock-waves.html>.

<sup>204</sup> “Three young men sit confined in an Okinawa jail, an ocean away from their hometowns in Texas and Georgia, possibly unaware that the brutal rape they are charged with committing against a Japanese girl has ignited a political firestorm between Japan and the United States.” Teresa Watanabe, “Okinawa Rape Suspect’s Lawyer Gives Dark Account: Japan: Attorney of accused Marine says co-defendant admitted assaulting 12-year-old girl ‘just for fun.’” *The Los Angeles Times*, Oct. 28, 1995, [http://articles.latimes.com/1995-10-28/news/mn-62075\\_1\\_japanese-girl](http://articles.latimes.com/1995-10-28/news/mn-62075_1_japanese-girl).

		Japanese television that Futenma Marine Corps Air Station in Okinawa would be closed and returned to Japan within 5 to 7 years.” They “spoke of the need to reduce ‘noise and other irritants’ in Okinawa...” <sup>205</sup>
04/1996		Reversion of Futenma agreed between Prime Minister Hashimoto and US Ambassador Mondale.
12/1996	US/GOJ	In 1996, the Special Action Committee on Okinawa (SACO) recommended that Futenma be relocated to “a sea-based facility.” Since the SACO report is a non-binding bilateral agreement, the willingness of realizing the FRF has been a voluntarily effort by the Government of Japan (GOJ) and Okinawa Prefectural Government (OPG).
12/1996		Reversion of Futenma agreed in SACO Final Report (2+2).
1997		Nago City Mayor Higa Tetsuya announces acceptance of the base plan. <sup>206</sup>
11/1997	US/GOJ/OPG	Politics begin to take part in the FRF implementation, namely over site and method of construction (e.g., megafloats or QIP or land reclamation). <sup>207</sup> In the beginning, the Futenma replacement runways were to be built using the megafloat technology. However, the technology was rejected by the US and OPG, respectively, citing technical and profit issues.
04/1999		According to a report by the Japan Policy Research Institute, authored by a former Marine officer, in response to newly elected Okinawan Gov. Inamine Keiichi’s call for the US military to minimize its off-base crimes and motor vehicle accidents, the Marine Corps enacted new regulations that: <ul style="list-style-type: none"> <li>• Restrict all single Marines below the rank of sergeant stationed on Okinawa for less than a year from owning or renting an automobile;</li> <li>• All Marines leaving the base will have their identification cards checked on weekends and holidays, and anyone found to be under the influence of alcohol will not be allowed off-base.<sup>208</sup></li> </ul>
12/1999		Nago City Mayor accepts the Futenma relocation plan, but with basic conditions.
2000-2002	GOJ/OPG	The plan to utilize the megafloat technology was opposed by local construction companies because they lack the specialization, and would not be able to profit from constructing the FRF as anticipated. In the end, land reclamation method prevailed. <sup>209</sup>

<sup>205</sup> Hamilton, Robert V. “The Futenma Problem.” *Marine Corps Gazette*, Vol. 83, No. 4 (April 1999). [http://www.jpri.org/publications/critiques/critique\\_VI\\_5.html](http://www.jpri.org/publications/critiques/critique_VI_5.html).

<sup>206</sup> “The string-puller is Higa Tetsuya, who as mayor in 1997 announced the acceptance of the base plan, thereby trampling on the will of the people who had just voted against it in the Nago City Plebiscite. After resigning, he has continued to run Nago City government as shadow mayor, with strong connections to the Zenekon construction companies. Today’s Mayor Shimabukuro is seen as Higa’s puppet, and Inamine’s support team says that ‘one of the main objectives of the election this time is to put paid to this string puller who runs Nago City.’” Gavan McCormack and Urashima Etsuko, “Electing a Town Mayor in Okinawa: Report from the Nago Trenches,” *The Asia-Pacific Journal*, 4-1-10, Jan. 25, 2010. <http://japanfocus.org/-Gavan-McCormack/3291>.

<sup>207</sup> “With the unofficial selection of the waters off Nago City as the Futenma relocation site and a survey being planned, local politics began to insert itself into the squabble over the method of construction the new facility...In mid-November 1997, I was in Nago City...At a meeting with the leading people of Nago, they told me: ‘we don’t need any megafloats or QIP; we want land reclamation.’ “Their reasoning was that only contractors in northern Okinawa should participate in the construction of the Futenma replacement facility as a project for local development.” William L. Brooks, “The Politics of the Futenma Base Issue in Okinawa: Relocation Negotiations in 1995-1997, 2005-2006,” *Asia-Pacific Policy Paper Series No. 9* (2010), accessed May 21, 2013, [http://reischaucercenter.web.fc2.com/papers/brooks/okinawa\\_brooks.pdf](http://reischaucercenter.web.fc2.com/papers/brooks/okinawa_brooks.pdf).

<sup>208</sup> Hamilton, Robert V. “The Futenma Problem.” *Marine Corps Gazette*, Vol. 83, No. 4 (April 1999). [http://www.jpri.org/publications/critiques/critique\\_VI\\_5.html](http://www.jpri.org/publications/critiques/critique_VI_5.html).

<sup>209</sup> William L. Brooks, “The Politics of the Futenma Base Issue in Okinawa: Relocation Negotiations in 1995-1997, 2005-2006,” *Asia-Pacific Policy Paper Series No. 9* (2010), accessed May 21, 2013, [http://reischaucercenter.web.fc2.com/papers/brooks/okinawa\\_brooks.pdf](http://reischaucercenter.web.fc2.com/papers/brooks/okinawa_brooks.pdf).



2000-2003		Meetings held between Okinawa and GOJ consultative groups over basic plans and other matters regarding the Futenma Replacement Facility (FRF) (Total of 11 meetings).
2002	US/GOJ	The Defense Policy Review Initiative (DPRI) strived to reduce US military footprint in Okinawa.
05/2006	US/GOJ	The US-Japan Security Consultative Committee (SCC) issued the 2006 US-Japan Roadmap for Realignment Implementation.
05/2006	US/GOJ	Construction of V-shaped runways agreed on the US-Japan Roadmap for Realignment Implementation.
12/2006	OPG	Hirokazu Nakaima elected as Okinawa governor. His initial stance on Futenma was that “relocation out of the Prefecture would be the best option, however, relocation within the prefecture may be inevitable.”
2006-2009		Meetings held between Okinawa and GOJ consultative groups on relocation measures, regarding detailed construction plans of the FRF (Total of 9 meetings).
08/2007	OPG	Naha Defense Facility Defense Bureau submits environmental impact assessment to the Okinawa governor; OPG declined to accept. <sup>210</sup>
02/2008		A marine was arrested for the alleged rape of a 14-year-old girl on the island. Consequently, to avoid a diplomatic fallout between the US and Japan, an indefinite curfew was enacted. The curfew applied to 45,000 military personnel and their families, including those lived off-base. <sup>211</sup>
06/2008		Okinawa Prefectural Assembly Election
08/2009	GOJ	During the General Election, former party leader Hatoyama campaigned for the removal of Futenma “at least out of Okinawa Prefecture.”
08/2009		DPJ’s landslide victory in the general election
09/2009	GOJ	Inauguration of Hatoyama’s Cabinet and its pledge to “re-examine the Realignment Plan and other fundamental aspects of US Forces in Japan.”
09/2009	GOJ	Agreement on the Three-Party Coalition, <sup>212</sup> which stated to “take a stance toward reviewing the realignment plans for US Forces.”
10/2009	OPG	Okinawa Governor Nakaima Hirokazu rejected the environmental impact assessment (EIA) submitted by GOJ. <sup>213</sup>
01/2010	OPG	Mr. Inamine Susumu, candidate opposed to the Henoko Plan, is elected as

<sup>210</sup> The Naha Defense Facilities Administrative Bureau on Aug. 7 submitted to Okinawa Prefecture documents specifying the methods of environmental assessment for the construction of a new US base on the coastline of US Camp Schwab in Nago City to replace the US Marine Corps Futenma Station.” “The Okinawa Prefectural government which is requesting the central government to shift the construction site further offshore declined to accept the documents.” “Okinawa Governor Nakaima Kota expressed his regret at the submission of the document and said, “The prefectural government is holding off acceptance.” “The construction will exert a serious negative impact on the living conditions of residents around Camp Schwab and the rich environment in the area where endangered dugongs inhabit.” “Government forcibly submits new US base environmental assessment documents to Okinawa,” *Japan Press Weekly*, Aug. 8, 2007, <http://www.japan-press.co.jp/s/news/?id=5983>.

<sup>211</sup> “In an attempt to limit the diplomatic fallout, US military authorities imposed a 24-hour, indefinite curfew on 45,000 military personnel and their families, including the 10,000 who live off-base. They also agreed to review anti-sexual assault guidelines and improve education programs for newly arrived service personnel.” “This has been going on since the US began occupying our island decades ago,” said Chie Miyagi, a schoolteacher and activist against the base. “The US military apologizes and promises us that it won’t happen again, but it always does.” “Campaigners believe the marines on Okinawa will soon revert to their old ways once the curfew is lifted.” “Other residents believe the curfew to be an unjust punishment affecting tens of thousands of law-abiding troops and their families.” Justin McCurry, “Rice says sorry for US troop behavior on Okinawa as crimes shake alliance with Japan,” *The Guardian*, Feb. 28, 2008, <http://www.theguardian.com/world/2008/feb/28/japan.usa>.

<sup>212</sup> “Agreement for a Three-Party Coalition Government,” The Democratic Party of Japan, accessed Sept. 12, 2014, <http://www.dpj.or.jp/english/policy/policy090909.html>.

<sup>213</sup> Chiyomi Sumida, “Okinawa governor rejects Schwab impact report,” *Stars and Stripes*, Oct. 15, 2009, <http://www.stripes.com/news/okinawa-governor-rejects-schwab-impact-report-1.95578>.

		Nago City mayor. <sup>214</sup>
02/2010	OPG	Okinawa Prefectural Assembly unanimously passed its written opinion calling for the relocation of Futenma out of Okinawa Prefecture.
04/2010		Okinawa Citizen's Rally: attended by representatives from all 41 municipalities, calling for the relocation out of Okinawa Prefecture.
05/2010	US/GOJ	Japan-US Joint Statement (2+2) reaffirms the Henoko Plan.
09/2010	OPG	Nago City Assembly Election (9 Pro-Henoko Plan, 18 Anti-Henoko Plan).
09/2010		A series of DUI related incidents in Okinawa prompted the air force to enact curfews to restrict all air force personnel from venturing outside of their base or off base residents from 11pm to 5am. <sup>215</sup>
09/2010	OPG	Pro-Henoko seats decreased from 13 to 11; anti-Henoko seats increased from 14 to 16.
11/2010	OPG	Gubernatorial Election of Okinawa Prefecture (Nakaima is re-elected with a campaign pledge calling for the relocation out of the prefecture).
05/2011	US	US Senators issue a joint statement calling for the 2006 Roadmap to be reexamined, and for alternatives to the current solution. <sup>216</sup>
2012	US	US Congress imposed funding restrictions on realignment efforts via the FY2012 National Defense Authorization Act. <sup>217</sup>
02/2012	US	US proposes the "delink." <sup>218</sup>
02/2012	OPG	Okinawa Governor Nakaima rejects GOJ's EIA, citing environmental damages, and threats to endangered dugong and other sea mammals. <sup>219</sup>

<sup>214</sup> "Mr. Inamine won with 52.3 percent of the vote, according to the city's election office." "Okinawa city elects a mayor opposed to US base," *The Washington Times*, Jan. 25, 2010, <http://www.washingtontimes.com/news/2010/jan/25/okinawa-city-elects-a-mayor-opposed-to-us-base/?page=all>.

<sup>215</sup> "Effective immediately, active-duty Air Force personnel are restricted to the base or their off-base residences from 11 p.m. to 5 a.m., according to a Kadena news release. Brig. Gen. Kenneth Wilsbach, 18th Wing commander, also ordered that alcohol consumption for all airmen is restricted to their homes. Drinking alcohol in local and base establishments is prohibited at all times, the order states. The order does not apply to civilians." "Although no specific incidents were mentioned in the Kadena order, a recent altercation at the Sunabe Seawall drew intense attention in the local media. Okinawa police took a 28-year-old Air Force captain into custody shortly after midnight Sept. 19 after he allegedly struck a police officer responding to a report that a drunken American was pounding on a taxi at the seawall, located near Kadena's main gate." David Allen, "Curfew, alcohol restrictions imposed on Okinawa airmen," *Stars and Stripes*, Sept. 27, 2010, <http://www.stripes.com/news/pacific/okinawa/curfew-alcohol-restrictions-imposed-on-okinawa-airmen-1.119821>.

<sup>216</sup> "The Senate Armed Services Committee on Thursday passed a bill banning spending for the move to Guam until the Marines study the plan all over again. Chairman Sen. Carl Levin, D-Mich., Ranking Member Sen. John McCain, R.-Ariz., and Sen. Jim Webb, D-Va., have led a roadblock effort, inserting language that would have the DOD consider alternatives to new facilities at Camp Schwab, moving some Kadena Air Base assets off of the island and moving some Futenma assets to Kadena." Kevin Baron, "US, Japan moving forward, but no hard deadline for Futenma," *Stars and Stripes*, June 21, 2011, <http://www.stripes.com/news/u-s-japan-moving-forward-but-no-hard-deadline-for-futenma-1.147054>.

<sup>217</sup> Led by the US Senate Armed Services Committee, Congress imposed funding restrictions on the Department of Defense's realignment efforts until the Department fulfills legislative requirements. Hornung, Jeffrey W. "Questioning the Senators' Proposal on US Force Realignment in Japan." *CSIS Japan Chair Platform* (June 21, 2011). [http://csis.org/files/publication/110621\\_Hornung\\_SenatePropForceRealignment\\_JapanPlatform.pdf](http://csis.org/files/publication/110621_Hornung_SenatePropForceRealignment_JapanPlatform.pdf).

<sup>218</sup> "I think it was wise for the negotiators to set this Futenma issue aside as they're trying to determine the best presence on Guam," Sen. Jim Webb, a Virginia Democrat, said in a March 15 interview with *The Asahi Shimbun*. "A lot of contracts on Guam have been held up until we can resolve what this will look like. We don't want to slow this down; we want to fix it" Webb is chairman of the East Asian and Pacific Affairs Subcommittee under the Senate Foreign Relations Committee as well as a member of the Senate Armed Services Committee. Last year, Webb and two other Armed Services Committee members issued a proposal that called for integrating functions of the US Marine Corps Air Station Futenma at Kadena Air Base, also in Okinawa Prefecture, rather than relocating Futenma to the Henoko district of Nago, Okinawa Prefecture." US Department of Defense. "US, Japan Release Joint Defense Posture Statement." Feb. 8, 2012. <http://www.defense.gov/News/NewsArticle.aspx?ID=67112>. And Hiroshi Ito, "Senator praises delinking Futenma from Guam move of Marines," *The Asahi Shimbun*, March 20, 2012, [http://ajw.asahi.com/article/behind\\_news/politics/AJ201203200015](http://ajw.asahi.com/article/behind_news/politics/AJ201203200015).

10/2012		Two US sailors, both 23, were arrested after allegedly raping a woman as she walked home. <sup>220</sup>
12/2012	GOJ	GOJ submits another EIA.
12/2012		In addition to the 11pm to 5am curfew rule, enacted in the wake of the alleged rape, the III Marine Expeditionary Force imposes a public off-base alcohol ban, and restricts service members from leaving base or off-base residents with a blood alcohol content level of 0.03 or higher. <sup>221</sup>
02/2013		USFJ adjusted curfew for all service members to midnight to 5am. Old curfew rule was from 11pm to 5am. However, USMC will continue to abide by restrictions imposed on December 1, 2012.
02/2013	GOJ/OPG	Naha, Okinawa court ruled there is no need for another EIA from the GOJ. <sup>222</sup>
04/2013	US/GOJ	The Consolidation Plan for Facilities and Areas in Okinawa: Futenma to be relocated in 2022 or later. <sup>223</sup>
04/2013	US	The US Senate Armed Services Committee continues to deny funding for realignment efforts and asks for clear time tables and cost estimate for the FRF. <sup>224</sup>
06/2013	US	A new GAO report charged the Department of Defense with 1) having an unreliable realignment plan due to missing costs and limited data; 2) lack of integrated master plan and systematic approach; and 3) no strategy to support the development and oversight of realignment initiatives. <sup>225</sup>
03/2013	GOJ	GOJ submits landfill request.

<sup>219</sup> “The governor listed 175 concerns he said were not addressed in the Tokyo assessment, including threats to the endangered dugong, a sea mammal similar to a manatee, and the noise of MV-22 Ospreys that would operate out of the new Marine Corps air station.” “There is high possibility that the traffic of many work vessels would shut off [the dugongs’] northbound travel to the east coast, disrupting their breeding migration,” according to Nakaima.” Travis J. Tritten and Chiyomi Sumida, *Stars and Stripes*, Feb. 21, 2012, <http://www.stripes.com/news/pacific/pacific-base-relocation/okinawa-rejects-tokyo-environmental-assessment-on-futenma-project-1.169229>. And “Okinawa governor: Plan to relocate Futenma to Henoko ‘impossible’,” *The Asahi Shimbun*, Feb. 21, 2012, [http://ajw.asahi.com/article/behind\\_news/politics/AJ201202210044](http://ajw.asahi.com/article/behind_news/politics/AJ201202210044).

<sup>220</sup> “Two US sailors accused of Okinawa rape: Case worsens US military’s relations with Japanese islanders amid continued furor over stationing of Osprey aircraft” Justin McCurry, “Two US sailors accused of Okinawa rape,” *The Guardian*, Oct. 17, 2012, <http://www.theguardian.com/world/2012/oct/17/us-sailors-accused-okinawa-rape>.

<sup>221</sup> “Service members in Okinawa will continue to follow the guidance of the III Marine Expeditionary Force, which imposed a public off-base alcohol ban there on Dec. 1. All service members in Okinawa also are barred from leaving bases or off-base residences with a blood alcohol content level of 0.03 or higher.” Referenced Erik Slavin, “Curfew eased for service members in Japan,” *Stars and Stripes*, Feb. 12, 2013, <http://www.stripes.com/news/pacific/japan/curfew-eased-for-servicemembers-in-japan-1.207710>.

<sup>222</sup> “The focus of the lawsuit was whether the court would approve the right of about 620 plaintiffs living around Nago, the envisioned relocation site of US Marine Corps Air Station Futenma, to express opinions about the plan in the environmental assessment procedure” “Rejecting their claims, presiding Judge Ryosuke Sakai said the residents were not specifically guaranteed the right to statements of opinion.” “Naha court says no need for new environmental assessment of Futenma base replacement site,” *The Japan Times*, Feb. 22, 2013, <http://www.japantimes.co.jp/news/2013/02/22/national/naha-court-says-no-need-for-new-environmental-assessment-of-futenma-base-replacement-site/#.UmmsvxDZiOI>.

<sup>223</sup> Details at *Consolidation Plan for Facilities and Areas in Okinawa*, (Washington DC: US Department of Defense, April 2013). Available at <http://www.defense.gov/news/Okinawa%20Consolidation%20Plan.pdf>; Accessed May 21, 2013.

<sup>224</sup> Eric Johnston, “Senate continues to deny Futenma transfer funding,” *The Japan Times*, April 20, 2013, <http://www.japantimes.co.jp/news/2013/04/20/national/senate-continues-to-deny-futenma-transfer-funding/#.Umn16BDZiOJ>.

<sup>225</sup> For details see US Government Accountability Office, *Defense Management: More Reliable Cost Estimates and Further Planning Needed to Inform the Marine Corps Realignment Initiatives in the Pacific*, by Brian Lepore, Washington D.C.: GAO-13-360, June 11, 2013, <http://www.gao.gov/assets/660/655142.pdf> (accessed Sept. 9, 2014).

06/2013		Nago City Municipal Office disapproves of the landfill request; however GOJ (MOD) stated that it would be able to proceed with the construction without Nago's approval. <sup>226</sup>
12/2013	OPG	On December 17 Okinawa Governor Nakaima submitted to GOJ requests pertaining to US military bases in Okinawa.
12/2013	GOJ/OPG	A public forum titled "Talks with H.E. Mr. Hirokazu Nakaima, Governor of Okinawa Prefecture" held December 25, 2013 between PM Abe and Okinawa Governor Nakaima. At The two leaders exchanged views and promises on US military base issues, and economic developments in Okinawa.
12/2013	OPG	On December 27, 2013, Governor Nakaima approved the landfill petition.

\*See footnote for sources.

**Table 5: Political Elements and Conditions in Okinawa**

Political Elements	Time	Past	As of 2012
Okinawa Governor Hirokazu Nakaima		Relocation out of Okinawa is the best option; will respect the wishes of the local residents	Relocation out of Okinawa is the best option; will respect the wishes of the local residents
Okinawa Prefectural Assembly		Reluctant approval by majority	Disapproval by majority
Mayor of Nago City		Reluctant approval by mayor Shimabukuro Yoshikazu <sup>227</sup>	Disapproval by newly elected mayor Inamine Susumu in 2010 <sup>228</sup>
Nago City Assembly		Reluctant approval by majority	Disapproval by majority

\*Source: Okinawa Prefectural Government, 2012.

**Table 6: Phase I (1995-1997) TRAM Research and Development**

<b>Objective</b>	Establish basic technology
<b>Experiment</b>	300m-long model joining units at sea
<b>Principal Dimensions</b>	<ul style="list-style-type: none"> <li>• Length: 300m</li> <li>• Width: 60m</li> <li>• Depth: 2m</li> <li>• Draft: 0.5m</li> <li>• Total Area: 1.8ha</li> <li>• Runway: N/A</li> </ul>

<sup>226</sup> "The bureau provided a letter in which the Nago Municipal Office disagreed with the reclamation plan based on the Public Water Body Reclamation Act. Nago claimed that the reclamation work would hinder the functions of the breakwaters of Henoko Fishing Port. On June 28, the bureau stated that it would be able to go ahead with the construction without Nago Municipal Office's approval." "Henoko reclamation to cost 231 billion yen," *Ryukyu Shimpō*, June 29, 2013, <http://english.ryukyushimpo.jp/2013/07/05/10752/>.

<sup>227</sup> "By 17,950 to 16,362 (in a 77 per cent poll turnout in the city of 60,000 people, 45,000 of them eligible voters) challenger Inamine Susumu, supported by the Democratic Party and its coalition partners and labor and civic organizations, defeated incumbent Shimabukuro Yoshikazu, supported by the LDP (and its Komeito partner) and by construction related business interests." Gavan McCormack and Urashima Etsuko, "Electing a Town Mayor in Okinawa: Report from the Nago Trenches," *The Asia-Pacific Journal*, 4-1-10, Jan. 25, 2010. <http://japanfocus.org/-Gavan-McCormack/3291>.

<sup>228</sup> "Inamine campaigned on the pledge to end city cooperation in the planned construction of a Marine base at Henoko and the outcome clearly confirmed the evidence of opinion polls, that roughly 70 per cent of citizens opposed the project." Gavan McCormack and Urashima Etsuko, "Electing a Town Mayor in Okinawa: Report from the Nago Trenches," *The Asia-Pacific Journal*, 4-1-10, Jan. 25, 2010. <http://japanfocus.org/-Gavan-McCormack/3291>.

<b>Research</b>	<ul style="list-style-type: none"> <li>• Design fabrication and joining at sea</li> <li>• Operational requirement</li> <li>• Environmental impact</li> </ul>
<b>Budget</b>	\$68.2 million

\*Source: Science Direct Marine Structures 18 (2005) 111–132.<sup>229</sup>

**Table 7: Phase II (1998-2001) TRAM Research and Development**

<b>Type</b>	Pontoon-type floating structure
<b>Objective</b>	Establish airport construction technology
<b>Experiment</b>	1,000m-long model joining units at sea
<b>Principal Dimensions</b>	<ul style="list-style-type: none"> <li>• Length: 1,000m</li> <li>• Width: 60m (partially 121m)</li> <li>• Depth: 3m</li> <li>• Draft: 1m</li> <li>• Total Area: 8.4ha</li> <li>• Runway: 900m x 25m</li> </ul>
<b>Research</b>	<ul style="list-style-type: none"> <li>• ILS (Instrument Landing System) and PAPI (Precision Approach Path Indicators)</li> <li>• Landing and takeoff of airplane</li> <li>• Concept study</li> <li>• Legal aspect</li> <li>• Environmental impact</li> </ul>
<b>Budget</b>	\$103.6 million

\*Source: Science Direct Marine Structures 18 (2005) 111–132.<sup>230</sup>

**Table 8: Sample Runway Lengths and Aircraft Type**

<b>Airfield</b>	<b>Aircraft Type</b>	<b>Length/Speed</b>
<b>Murdock's Sample</b>		
Barksdale AFB	B-52 & KC-97	11,777 feet <sup>231</sup>
Bergstrom AFB	B-52 & KC-135	12,248 feet (3,733 m) <sup>232</sup>
Davis-Monthan AFB	B-47 & KC-97	13,643 feet <sup>233</sup>
Eaker AFB	B-57	11,600 feet <sup>234</sup>
Griffiss AFB	B-52 & KC-135	6,500 feet in 1945; 12,000 feet in 1958 <sup>235</sup> (1,981 meter; 3,658 meter)

<sup>229</sup> Suzuki, Hideyuki. "Overview of Megafloat: Concept, design, criteria, analysis, and design." *Marine Structures* 18 (2005): 111–132. <http://202.114.89.60/resource/pdf/374.pdf>.

<sup>230</sup> Suzuki, Hideyuki. "Overview of Megafloat: Concept, design, criteria, analysis, and design." *Marine Structures* 18 (2005): 111–132. <http://202.114.89.60/resource/pdf/374.pdf>.

<sup>231</sup> "Barksdale Afb Airport (BAD) in Bossier City, Louisiana," City-Data.com, accessed Sept. 12, 2014, <http://www.city-data.com/airports/Barksdale-Afb-Airport-Bossier-City-Louisiana.html>.

<sup>232</sup> "Austin–Bergstrom International Airport," *Wikipedia*, last modified Sept. 3, 2014, [http://en.wikipedia.org/wiki/Austin%E2%80%93Bergstrom\\_International\\_Airport](http://en.wikipedia.org/wiki/Austin%E2%80%93Bergstrom_International_Airport).

<sup>233</sup> "Davis Monthan Afb Airport (DMA) in Tucson, Arizona," City-Data.com, accessed Sept. 12, 2014, <http://www.city-data.com/airports/Davis-Monthan-Afb-Airport-Tucson-Arizona.html>.

<sup>234</sup> "Eaker Air Force Base," *The Encyclopedia of Arkansas History & Culture*, accessed Sept. 12, 2014, <http://www.encyclopediaofarkansas.net/encyclopedia/entry-detail.aspx?entryID=2795>.

<sup>235</sup> "Griffiss Air Force Base, United States of America," *Airforce-Technology.com*, accessed Sept. 12, 2014, <http://www.airforce-technology.com/projects/griffissairforcebase/>.

Grissom AFB	B-47, B-58 & KC-135	12,500 feet <sup>236</sup> (3,810 meter)
Langley AFB	B-57 & F-100	10,000 feet <sup>237</sup> (3,048 meter)
Wurtsmith AFB	B-52 & KC-135	11,800 feet <sup>238</sup> (3,597 meter)
<b>Average length for aircraft in the 1960s:</b> 11,946 feet (3,641 meter)		
<b>Airfields on Okinawa</b>		
Kadena	F-15, KC-135, HH-60 helicopters, E-3C, P-3C, PAC-3 <sup>239</sup>	12,100 feet (3,690 meter) <sup>240</sup>
Futenma	CH-46, CH-53, AH-1, UH-1, KC-130 and others <sup>241</sup>	9,000 feet (2,743 meter)
<b>Average length for aircraft stationed on Okinawa:</b> 10,550 feet (3,216 meter)		
<b>Example of future aircraft to be stationed on Okinawa</b>		
	F-35B (VL)	3,000 feet (914.4 meter) to 4,000 feet (1,219 meter) runways with special aluminum-alloy pads over concrete land.
	B-2	3,450 feet to 6,690 feet (1,052 to 2,039 meter)
	KC-130J and other C-130s (there are 40 versions of C-130)	855 feet to 5,000 feet (260 to 1,524 meter)
	MV-22 Osprey	5,112 feet (1,558 meter) runway (MTOW is 59,305 pounds) – Per 1998 GAO/Marine Corps study. Based on DOD website, MV-22 vertical takeoff/landing (VTOL) is at 47,500 pounds; short takeoff/landing (STOL) is at 55,000 pounds; self-deploy (STO) is at 60,500 pounds. <sup>242</sup>
<b>Average length for aircraft to be stationed on Okinawa:</b> 5,201 feet (1,585 meter)		

\*See footnote for sources.

**Table 9: Land Reclamation versus the Mega-Float<sup>243</sup>**

Construction Type	Method	Estimated Cost
Land reclamation	21 million cubic meters of landfill. <sup>244</sup>	Between ¥231 and ¥87 billion. <sup>245</sup>

<sup>236</sup> US Air Force. “Grissom to temporarily close runway for repair.” March 14, 2014. <http://www.grissom.afrc.af.mil/news/story.asp?id=123403679>.

<sup>237</sup> “Langley AFB (LFI) in Hampton, Virginia,” Aviation Acres, accessed Sept. 12, 2014, <https://www.aviationacres.com/virginia.asp?CMD=AirportDetail&ID=18198>.

<sup>238</sup> “Oscoda–Wurtsmith Airport,” *Wikipedia*, Aug. 18, 2014, [http://en.wikipedia.org/wiki/Oscoda-Wurtsmith\\_Airport](http://en.wikipedia.org/wiki/Oscoda-Wurtsmith_Airport).

<sup>239</sup> Ministry of Defense of Japan. *Defense of Japan 2012*. (Tokyo: Erklaren Inc., 2012), 228.

<sup>240</sup> “Kadena Air Base,” US Air Force, accessed Sept. 12, 2014, <http://www.kadena.af.mil/library/factsheets/factsheet.asp?id=12710>.

<sup>241</sup> Ministry of Defense of Japan. *Defense of Japan 2012*. (Tokyo: Erklaren Inc., 2012), 228.

<sup>242</sup> “V-22 Osprey,” Military Analysis Network, accessed Sept. 12, 2014, <http://www.fas.org/man/dod-101/sys/ac/v-22.htm>.

<sup>243</sup> “Studies have been conducted by a “Technical Support Group” comprised of Government engineers under the guidance of a “Technical Advisory Group” comprised of university professors and other experts outside the Government. These studies suggested that all three construction methods mentioned below are technically feasible.” Ministry of Foreign Affairs of Japan. “The SACO Final Report on Futenma Air Station (an Integral Part of the SACO Final Report).” Dec. 2, 1996. <http://www.mofa.go.jp/region/n-america/us/security/96saco2.html>.

<sup>244</sup> “On June 28, the Okinawa Prefectural Government (OPG) made available to the public the application documents that the Okinawa Defense Bureau submitted to the OPG for permission to reclaim land at Henoko.” “During the inspection period, the

MF 1: Pile Supported Pier Type (using floating modules)	Supported by steel columns fixed to the sea bed.	Depends largely on the market price of steel.
MF 2: Pontoon Type	Platform of steel pontoon type units, installed in a calm sea protected by a breakwater	Same as above.
MF 3: Semi-Submersible Type	Platform at a wave-free height, supported by buoyancy of lower structure submerged under the sea.	Same as above.

**Table 10: Quick Facts on the Henoko Plan**

<b>Technology</b>	<ul style="list-style-type: none"> <li>To build a base by reclaiming land adjacent to Camp Schwab</li> </ul>
<b>Distance off-shore</b>	<ul style="list-style-type: none"> <li>Approximately 2.2 kilometers<sup>246</sup></li> </ul>
<b>Life Cycle</b>	<ul style="list-style-type: none"> <li>In a 1998 US GAO report, DoD estimated the new base to have an operational life of 40 years, and useful life of 200 years<sup>247</sup></li> </ul>
<b>Runway and Taxiway</b>	<ul style="list-style-type: none"> <li>V-shaped runways for helicopters</li> <li>1,600 meter with 100 meter overruns (2) <ul style="list-style-type: none"> <li>Landing (1)</li> <li>Take-off (1)</li> </ul> </li> </ul>
<b>Facilities</b>	<ul style="list-style-type: none"> <li>Marine Aviation Group <ul style="list-style-type: none"> <li>Logistics squadron</li> <li>Helicopter squadrons</li> </ul> </li> <li>Relocation to Camp Schwab<sup>248</sup> <ul style="list-style-type: none"> <li>Marine Corps airfield related facilities</li> <li>Marine Corps aviation unit and command function, and related facilities</li> </ul> </li> </ul>
<b>Capability</b>	<ul style="list-style-type: none"> <li>Replacement of Futenma capabilities will be implemented as necessary<sup>249</sup> <ul style="list-style-type: none"> <li>Facility improvements for contingency use of JASDF Nyutabaru Air Base and Tsuiki Air Base</li> </ul> </li> <li>Capabilities that cannot be replicated at the FRF, civilian facilities for long runway operations will be improved for contingency use<sup>250</sup></li> </ul>
<b>Implementation</b>	<ul style="list-style-type: none"> <li>Area of construction will be adjacent to Camp Schwab and off-limits to</li> </ul>

OPG will accept opinions from people concerned.” “The amount of earth and sediment for the landfill will be 21 million cubic meters.” “Henoko reclamation to cost 231 billion yen,” *Ryukyu Shimpō*, June 29, 2013, <http://english.ryukyushimpo.jp/2013/07/05/10752/>.

<sup>245</sup> “The documents reveal that the cost of the reclamation is estimated at 231 billion and 87 million yen. The total construction cost, including that to build the air base is not given. The documents are six volumes totaling 8,800 pages, including the Environmental Impact Statement.” “Henoko reclamation to cost 231 billion yen,” *Ryukyu Shimpō*, June 29, 2013, <http://english.ryukyushimpo.jp/2013/07/05/10752/>.

<sup>246</sup> William L. Brooks, “The Politics of the Futenma Base Issue in Okinawa: Relocation Negotiations in 1995-1997, 2005-2006,” *Asia-Pacific Policy Paper Series No. 9* (2010), accessed May 21, 2013, [http://reischausercenter.web.fc2.com/papers/brooks/okinawa\\_brooks.pdf](http://reischausercenter.web.fc2.com/papers/brooks/okinawa_brooks.pdf).

<sup>247</sup> Satoko Norimatsu, “‘The World is beginning to know Okinawa’: Ota Masahide Reflects on his Life from the Battle of Okinawa to the Struggle for Okinawa,” *The Asia-Pacific Journal* (Sept. 20, 2010): 38-4-10, accessed May 21, 2013, <http://www.japanfocus.org/-Satoko-NORIMATSU2/3415>.

<sup>248</sup> Consolidation Plan for Facilities and Areas in Okinawa, (Washington DC: US Department of Defense, April 2013). Available at <http://www.defense.gov/news/Okinawa%20Consolidation%20Plan.pdf>; Accessed May 21, 2013.

<sup>249</sup> *ibid*

<sup>250</sup> *ibid*



<b>plan</b>	residents. This allows construction to proceed without disturbance by potential protesters.
<b>COST</b>	
	<ul style="list-style-type: none"> <li>• \$2.4 billion to \$4.9 billion to design and build (based on the 1998 GAO report). <ul style="list-style-type: none"> <li>○ The US is obligated to pay for maintenance costs. Based on a \$4 billion sea-based facility design and construction cost, maintenance costs was estimated by US engineers to be \$8 billion over the 40-year life span of the facility.</li> <li>○ Annual maintenance costs for the US is about \$200 million under the \$8 billion estimate. In comparison, annual maintenance costs for Futenma are about \$2.8 million.</li> </ul> </li> <li>• \$3.6 billion (2012 GOJ budget estimate for the new FRF) + \$13.6 million (estimated costs for facility improvements at Futenma until FRF is fully operational).</li> <li>• GOJ agreed to pay \$114.3 million toward the facility costs.</li> </ul>
<b>Total</b>	To Be Determined
<b>CONSTRUCTION TIME (8-12 years)</b>	
	<ul style="list-style-type: none"> <li>• A 1998 US GAO report estimated the project could take 10 to 12 years to build.</li> <li>• According to former Okinawa Governor Inamine Keiichi in 2006, it would take at least 8 years to complete the proposed V-shaped runways.</li> </ul>

\*Sources: United States Government Accountability Office<sup>251</sup>; Japan Ministry of Defense<sup>252</sup>; The Reischauer Center for East Asian Studies<sup>253</sup>; Marine Corps Times<sup>254</sup>; Consolidation Plan for Facilities and Areas in Okinawa<sup>255</sup>

**Table 11: Quick Facts on the Mega-Float Technology**

<b>Design Technology</b>	<ul style="list-style-type: none"> <li>• <i>Motion resistant</i>: the Mega structure can withstand external influences such as wind, wave, and tide; it can be design for maximum water surge and wave height based on 100 – 1000 year storm scenario;</li> <li>• <i>Pneumatic Draining Method</i>: the Mega Float uses air blower, pressure cabin, and pressurized air to push surface water down so welding can take place just like on dry land;</li> <li>• <i>No weight limit</i>: no weight limitation on the number of structures to be built, or number of aircrafts on the floating land.</li> </ul>
<b>Durability</b>	<ul style="list-style-type: none"> <li>• <i>Corrosion resistant</i>: utilizes durable, corrosion- and rust-resistant materials such as titanium, stainless steel, and nickel alloy. For example, the D-runway at Tokyo Haneda airport is built on such technology. This floating runway is built on the Tokyo Bay with about 14 to 19 meters of water depth.<sup>256</sup></li> </ul>

<sup>251</sup> US General Accounting Office, *Overseas Presence: Issues Involved in Reducing the Impact of the US Military Presence on Okinawa*, Norman J. Rabkin, Washington D.C.: GAO/NSIAD-98-66, March 3, 1998, <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-98-66/pdf/GAOREPORTS-NSIAD-98-66.pdf> (accessed May 20, 2013).

<sup>252</sup> Japan Ministry of Defense. *Defense of Japan 2012*. (ISBN 978-4-8458-4433-3). Tokyo, Japan: Erklaren Inc., Oct. 30, 2012.

<sup>253</sup> William L. Brooks, “The Politics of the Futenma Base Issue in Okinawa: Relocation Negotiations in 1995-1997, 2005-2006,” *Asia-Pacific Policy Paper Series No. 9* (2010), accessed May 21, 2013, [http://reischauercenter.web.fc2.com/papers/brooks/okinawa\\_brooks.pdf](http://reischauercenter.web.fc2.com/papers/brooks/okinawa_brooks.pdf).

<sup>254</sup> Gidget Fuentes, “US, Japan agree on critical Okinawa plan,” *Marine Corps Times*, April 11, 2013, <http://www.marinecorpstimes.com/article/20130411/NEWS/304110005/U-S-Japan-agree-critical-Okinawa-plan>.

<sup>255</sup> *Consolidation Plan for Facilities and Areas in Okinawa*, (Washington DC: US Department of Defense, April 2013). Available at <http://www.defense.gov/news/Okinawa%20Consolidation%20Plan.pdf>; Accessed May 21, 2013.

<sup>256</sup> Eric Diffoot, “Tokyo Haneda’s 4th Hybrid Runway Pics,” and “October 2010 – Haneda International Airport will reborn with its new floating runway,” Aviation Discussion Forum (blog), JetPhoto.Net Forums, Aug. 18, 2009, <http://forums.jetphotos.net/showthread.php?t=50716>.



	<ul style="list-style-type: none"> <li>• <i>Maintenance</i>: a life-cycle of 50-100 years with no major maintenance; 4-5 years of small inspection and maintenance projects (i.e., breakwater, or facilities on the Mega-float) that can be accomplished utilizing expertise based in Okinawa; cleaning the surface of the Mega-Float should be treated as maintaining airstrips. Grass could be utilized to cover surface of the Mega-Float in areas other than runways to reduce cleaning.</li> </ul>
<b>Reliability</b>	<ul style="list-style-type: none"> <li>• Facilities on the Mega-Float operate the same as land-based counterparts</li> <li>• The magnetic measurement, part of the facility functional assurance technology associated with building a Mega-Float, ensures that magnetism and temperature variations, and daylight reflections will not interfere with operations on the Float.</li> </ul>
<b>Environmentally Friendly</b>	<ul style="list-style-type: none"> <li>• The Mega-Float is environmentally friendly. Based on the environmental impact assessment technology, and survey results, the Mega-structure does not harm the quality of water, seabed, and eco systems.</li> </ul>

\*Sources: Japan Ministry of Land, Infrastructure, Transport and Tourism; Shipbuilding Research Centre of Japan.<sup>257</sup>

**Table 12: Cost Estimate for the Mega-Float/FRF**

<b>Mega-Float as the FRF</b>		<b>Futenma</b>
	<p style="text-align: center;"><b>Area</b></p> <ul style="list-style-type: none"> <li>• <u>Case study</u>: 52 hectare = about 200 steel jackets used for D runway</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Area: total 1,188 acres of land (481 hectare)</b> <ul style="list-style-type: none"> <li>• Approximately 475.2 acres (192 hectare) (40%) used for: <ul style="list-style-type: none"> <li>○ Runways</li> <li>○ Taxiways,</li> <li>○ Aircraft parking</li> </ul> </li> <li>• Approximately 712.8 acres (289 hectare) (60%) used for: <ul style="list-style-type: none"> <li>▪ Air operations</li> <li>▪ Aircraft wash rack (1)</li> <li>▪ Maintenance facilities</li> <li>▪ Vehicle maintenance facilities</li> <li>▪ Fuel storage facilities</li> <li>▪ Hazardous waste storage (1) and transfer facility (1) <ul style="list-style-type: none"> <li>• Control tower (1)</li> <li>• Armory (1)</li> <li>• Other facilities</li> </ul> </li> </ul> </li> <li>○ Personnel support facilities</li> <li>○ Housing (married/single facilities)</li> <li>○ Administrative activities</li> </ul> </li> </ul>
<b>FRF</b>	<ul style="list-style-type: none"> <li>• About 3.7 times as large as the D runway to accommodate runways, taxiways, and aircraft parking; utilizing 740 steel jackets.</li> </ul>	

<sup>257</sup> The knowledge compiled in the mega float section is partly based on a presentation at the Shipbuilding Research Centre of Japan: “Mega-Float Artificial Land Floating on the Sea Summary Version (English),” *Technological Research Association of Mega-Float*, produced by Ryoin Co. Ltd., DVD. The R&D project in the DVD was supported by Ministry of Transport Japan and The Nippon Foundation; moreover, it was based on interview at MLIT, and *A Stamp of Approval to Mega-Float Airport Feasibility* (Tokyo, Japan: Technology Division of the Maritime Bureau, Ministry of Land, Infrastructure and Transport of Japan, 2001).

	<ul style="list-style-type: none"> <li>About 5.6 times as large as the D runway to accommodate facilities for air operations, personnel support facilities, housing, and administrative activities; about 1,120 steel jackets.</li> </ul>	
<b>COST</b>		
<ul style="list-style-type: none"> <li>Example: Tokyo Haneda Airport's D runway = About \$6 billion (570 billion Yen)</li> </ul>		
<b>FRF</b>	<ul style="list-style-type: none"> <li>\$22.2 billion for runways, taxiways, and aircraft parking (\$6 billion X 3.7) (40% of Futenma)</li> </ul>	
	<ul style="list-style-type: none"> <li>\$33.6 billion for all remaining facilities (\$6 billion X 5.6) (60% of Futenma)</li> </ul>	
	<ul style="list-style-type: none"> <li><b>Total: About \$55.8 billion (Complete replica of Futenma)</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Estimated Cost for FRF: \$3.6 billion in late 1990s or early 2000s.</b></li> </ul>
<b>CONSTRUCTION TIME (Ranges from 11 to 28 years)</b>		
<ul style="list-style-type: none"> <li>Example: Tokyo Haneda Airport's D runway completion time was about 41 months (3 years)</li> </ul>		
<b>FRF</b>	<ul style="list-style-type: none"> <li>About 11 years to complete runways, taxiways, and aircraft parking (3 years X 3.7) (40% of Futenma)</li> </ul>	
	<ul style="list-style-type: none"> <li>About 17 years to complete all remaining facilities (3 years X 5.6) (60% of Futenma)</li> </ul>	
	<ul style="list-style-type: none"> <li><b>Total: 28 years (Complete replica of Futenma)</b></li> </ul>	

\*Sources: United States Government Accountability Office<sup>258</sup>; Japan Ministry of Land, Infrastructure, Transportation<sup>259</sup>

**Table 13: Exchange between Prime Minister Abe and Okinawa Gov. Nakaima<sup>260</sup>**

Item No.	Requests made by Governor Nakaima on December 17, 2013	Response made by Prime Minister Abe on December 25, 2013	Response made by Governor Nakaima on December 25, 2013
1	Termination of operations and swift return of MCAS Futenma within 5 years	Abe: "...you have requested the suspension of the operations of Futenma Air Station within five years, and the deployment of	Nakaima: "The Government and the prefecture share the same recognition that eliminating danger at Futenma is an

<sup>258</sup> US General Accounting Office, *Overseas Presence: Issues Involved in Reducing the Impact of the US Military Presence on Okinawa*, Norman J. Rabkin, Washington D.C.: GAO/NSIAD-98-66, March 3, 1998. <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-98-66/pdf/GAOREPORTS-NSIAD-98-66.pdf> (accessed May 20, 2013).

<sup>259</sup> *A Stamp of Approval to Mega-Float Airport Feasibility* (Tokyo, Japan: Technology Division of the Maritime Bureau, Ministry of Land, Infrastructure and Transport of Japan, 2001).

<sup>260</sup> Prime Minister of Japan and His Cabinet. "The Prime Minister in Action: Talks with H.E. Mr. Hirokazu Nakaima, Governor of Okinawa Prefecture." Dec. 25, 2013. [http://www.kantei.go.jp/foreign/96\\_abe/actions/201312/25mendan\\_e.html](http://www.kantei.go.jp/foreign/96_abe/actions/201312/25mendan_e.html). And Ms. Yukie Yoshikawa's memo. Yoshikawa was a Fellow at Regional Security Policy Division, Executive Office of the Governor, Okinawa Prefectural Government.

		around 12 Osprey aircrafts to locations outside of Okinawa Prefecture. I share with you precisely that it is a critically vital task to remove the dangers posed by Futenma Air Station, up until such time of its relocation. In order to reduce the burdens of the bases in Okinawa, I consider that all possible efforts should be taken in mainland Japan as well.”	extremely important issue. I actually have great hopes, as the allocation of research expenses and the creation of a research team within the Ministry of Defense in relation to the Osprey have been arranged in the next fiscal year's budget. I would be most appreciative if the relocation of the functions of Futenma could be realized within five years, and suspension of the operation of the air station could be realized.” <sup>261</sup>
Progress on item number 1		On December 27, 2013, Okinawa Governor Nakaima announced his decision to approve the landfill petition of Cape Henoko, submitted by the Government of Japan as a part of its measures to build a Futenma Relocation Facility (FRF). (See below for the Summary of Okinawa Governor’s Statement in Approving The Landfill Petition of Cape Henoko for the Futenma Relocation Facility.)	
2	Total return of Camp Kinser within 7 years	Abe: “With regard to your request for the full return of Camp Kinser within seven years, we have established a team at the Ministry of Defense to promote the master plan pertaining to land returns. For the storage area in particular, we will aim to minimize the length of time until its return as much as possible, through Japanese efforts.”	Nakaima: “I am also extremely appreciative for the progress that is being made with Camp Kinser, and mindful of the many requests being made by the prefecture.”
3	Revise of the Status Of Forces Agreement between the US and Japan including: 1) in-site investigations, from the viewpoints of environment and excavating cultural assets by Okinawa, inside the military facilities three years before their returns, 2) in-site investigations by experts in the Okinawa Prefectural Government inside both existing and	Abe: “concerns the reduction of burdens on Okinawa associated with US forces' bases. First, with regard to the Japan-US Status of Forces Agreement (SOFA), the Japanese and US Governments have agreed to launch bilateral consultations towards producing a new intergovernmental agreement that would supplement the SOFA concerning the environment. In the negotiations, we intend to also deal with the requests we have received from	Nakaima: “I am also delighted to hear that the Government will engage in negotiations with the United States for the first time in more than 50 years concerning the Status of Forces Agreement. Nothing would give me greater pleasure than for such negotiations to be implemented and for the wishes of Okinawa relating to the environment to be also addressed.”

<sup>261</sup> “Okinawa Gov. Hirokazu Nakaima welcomed Prime Minister Abe’s announcement Thursday that he would seek US President Barack Obama’s cooperation in closing US Marine Corps Air Station Futenma in Okinawa within five years... There is considerable doubt in Okinawa, and in the Pentagon, as to whether Futenma can actually be closed within five years due to local opposition in Henoko further north on Okinawa to building a replacement base for Futenma.” Eric Johnston, “Abe Futenma plan hailed by Nakaima,” *The Japan Times*, April 24, 2014, [http://www.japantimes.co.jp/news/2014/04/24/national/politics-diplomacy/nakaima-praises-abes-bid-to-close-futenma-air-base/#.U\\_qaTWPCfm0](http://www.japantimes.co.jp/news/2014/04/24/national/politics-diplomacy/nakaima-praises-abes-bid-to-close-futenma-air-base/#.U_qaTWPCfm0).

	new facilities, in case of environmental pollution is suspected, 3) apply tighter environmental regulations either in the US or Japan to the US military facilities.	you. Since the issuance of the SOFA some 50 years ago, this is will be the first time that such consultations are taking place.”	
4	Deploying about a dozen of Ospreys out of Okinawa. This includes: 1) relocating majority of Osprey trainings, 2) remove Ospreys out of Okinawa after the termination of operations of MCAS Futenma.	Abe: “While this matter also concerns other parties, including the United States, the Japanese Government will work to conduct Osprey trainings at several Self-Defense Force (SDF) exercise areas and other locations in mainland Japan, in order to be able to conduct roughly half of the trainings and other activities in locations outside of Okinawa Prefecture. To this end, we will introduce tilt-rotor aircrafts of the SDF and allocate the necessary funds to study this in the FY2014 budget. We will also establish a team at the Ministry of Defense, and finalize the work towards giving shape to this plan.”	
5	Securing budget for FY 2014 of about 340.8 billion yen to be used for enhancing Okinawa Institute of Science and Technology (OIST), etc.	Abe: “In the FY2014 draft government budget, 346 billion yen has been allocated, which includes consumption tax. Therefore, an amount exceeding the 340.8 billion yen total in the budget request has been secured. Furthermore, as I stated during the Cabinet meeting yesterday, I pledge to secure at least 300 billion yen every year for the Okinawa promotion and development budget throughout the period of the Okinawa Promotion and Development Plan; in other words, until FY2021.”  Abe: “with regard to the Okinawa Institute of Science and Technology (OIST), to carry out reviews from a variety of perspectives, including on the issues of securing the necessary funding and maintaining the quality of faculty, in order to expand the scale of the institute.”	Nakaima: “With regard to the Okinawa Institute of Science and Technology (OIST) and also the North-South Rail Transit Project, which is a mid- to long-term project, I have received an explanation today that the Government seeks to develop infrastructure at a speed that will allow construction to proceed in the years ahead. Furthermore, with regard to the promotion and development of the northern region of Okinawa, I would like to express my heartfelt appreciation for the detailed explanation I have received. I am also delighted to learn that the Government is considering a candidate site with regard to IR, as a mid- to long-term issue for the future.”
6	Another 300 billion yen by 2021 for the second runway of Naha airport, etc.;	Abe: “I definitely would like to have the construction work for building another runway at Naha	Nakaima: “I would like to thank you for allocating a budget that exceeds the original budget

		Airport completed by the end of 2019”	requests. The Government has also increased the allocation for the runway project at Naha Airport, which has been a long-held hope of the prefecture.”
7	Costs for a railway system and recovering the returned land from the US military bases for commercial use	Abe: “With regard to the program for the promotion and development of Northern Okinawa, I pledge to sustain a program of at least 5 billion yen every year until FY2021.”	Nakaima: “with regard to the promotion and development of the northern region of Okinawa, I would like to express my heartfelt appreciation for the detailed explanation I have received. I am also delighted to learn that the Government is considering a candidate site with regard to IR, as a mid- to long-term issue for the future.”
8	Implement tax reform (preferential tax treatments for investments in Okinawa) in FY 2014.	Abe: “With regard to the FY2014 taxation system reform, the Government has decided to fulfill your requests as much as possible, and will work to steadily implement them.”	Nakaima: “With regard to the taxation system, the special zone for monetary affairs in Nago City has been designated as the Industrial Development and Business Innovation Promotion District, and many authorities of the prefectural governor have been delegated to ensure that various businesses, in addition to financial businesses, can be promoted. I believe that this measure will considerably advance the vitalization of the northern region of Nago City. Various taxation systems have also been applied to Okinawa as a whole, and this too represents a significant improvement. Thank you very much.”

\*Source: The Prime Minister of Japan and His Cabinet official website

## Possible Collaborating Organizations for the Okinawa Energy Initiative

### *United States*

- The National Renewable Energy Laboratory
- Sandia Laboratories
- Rocky Mountain Institute (Dr. Amory Lovins)
- American Council on Renewable Energy (ACORE)
- State of Hawaii
- Hawai'i Natural Energy Institute (HNEI)
- National Renewable Energy Labs (NREL)
- Hawaiian Electric Co.<sup>262</sup>
- Hawaii Department of Business, Economic Development and Tourism (DBEDT)
- US Department of Energy (Advanced Research Projects-Energy (ARPA-E))
- US Department of Defense
- US Department of Defense, US Department of Energy, and the US Environmental Protection Agency: Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP)
- US Naval Facilities Engineering Command
- National Institute of Standards and Technology (NIST)
- North American Electric Reliability Corporation (NERC)

### *Japan*

- Japan Bank for International Cooperation (Planning and Coordination Division, Power and Water Finance Department Infrastructure Finance Group)
- Ishikawajima-Harima Heavy Industries Co., Ltd. (IHI)
- Shipbuilding Research Centre of Japan (Overseas Shipbuilding Cooperation Centre)
- Nippon Foundation/ Sasakawa Peace Foundation
- The Okinawa Electric Power Company, Incorporated (OEPC)<sup>263</sup>
- The Canon Institute for Global Studies (Dr. Tetsuo Yuhara)
- The Institute of Energy Economics, Japan (Global Energy Group2, Strategy Research Unit)
- Okinawa General Bureau, Economy, Trade and Industry Department Cabinet Office, Government of Japan
- Okinawa Prefectural Government
  - Industrial Policy Division Department of Commerce, Industry and Labor
  - Regional Security Policy Division, Executive Office of the Governor
- Japan Ministry of Land, Infrastructure, Transport and Tourism (International Affairs Office, Shipbuilding and Ship Machinery Division, Maritime Bureau)
- Japan Ministry of Defense
- Japan Ministry of Foreign Affairs
  - Japan-US Security Treaty Division North American Affairs Bureau

---

<sup>262</sup> Sophie Cocke, "HECO Close to Meeting 2015 Renewable Energy Goal," Hawaii Land Blog – Environment, Energy and Sustainability, *Honolulu Civil Beat*, April 29, 2013, <http://hawaii.land.blogs.civilbeat.com/post/49220817714/heco-close-to-meeting-2015-renewable-energy-goal>.

<sup>263</sup> "R&D Information," The Okinawa Electric Power Company Incorporated (OEPC), accessed May 22, 2013, [http://www.okiden.co.jp/english/r\\_and\\_d/](http://www.okiden.co.jp/english/r_and_d/).