

Background

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Meeting Taiwan's Self-Defense Needs

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Abstract: *The United States is the provider of both tangible security and political stability to the Taiwan Strait. Given China's ongoing military buildup, particularly toward Taiwan, it is essential that the United States provide Taiwan with the physical and political means to resist the capacity of the Chinese military to alter the political status quo. This should include continued U.S. arms sales to Taiwan and maintaining a robust U.S. military capability in the region.*

In furtherance of the policy set forth in section 3301 of this title, the United States will make available to Taiwan such defense articles and defense services in such quantity as may be necessary to enable Taiwan to maintain a sufficient self-defense capability.

—Taiwan Relations Act of 1979¹

With the new year, the Obama Administration has cleared the sale of advanced Patriot air defense missiles and Blackhawk helicopters to the Republic of China (ROC) on Taiwan² as part of a larger package of arms sales that the Bush Administration announced in its waning days.³ This is in keeping with the Taiwan Relations Act and the American commitment “to provide Taiwan with arms of a defensive character.” The legal mandate for this sale is clear. What remains unclear, however, is what other systems the U.S. will sell to Taiwan to help provide it with “sufficient self-defense.”

Talking Points

- The United States needs to provide military assistance as well as political support to Taipei that will allow it to make its own decisions, not under duress from Beijing.
- The People's Republic of China has directed significant resources to the People's Liberation Army (PLA), acquiring various capabilities that would facilitate forcible unification of the island with the mainland. Furthermore, the PLA has spent significant intellectual capital developing the doctrine needed to use those resources effectively.
- To counter the PLA, Taiwan needs not only additional weapons, but also political signals from the United States showing Washington's continuing support for the island's ability to make its own decisions.
- Sales of systems such as the F-16C/D serve not only to redress the worsening cross-strait balance of military power, but also to signal to Beijing continued U.S. support of a peaceful resolution of the Taiwan Strait issue.

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To understand Taiwan's defense needs, it is important to consider the threat confronting Taiwan. Over the past decade, the People's Republic of China (PRC) has doubled its defense budget, greatly increasing the forces arrayed against the island. U.S. efforts to redress this imbalance are essential to any peaceful resolution of the Taiwan Strait issue that accounts for the views on both sides of the strait and is not imposed under duress from Beijing. U.S. arms sales serve as both military and political signals to Beijing that the U.S. will stand by its commitments to Taiwan and maintain a robust American forward presence in the East Asian region.

The PRC Threat

U.S. arms sales to Taiwan occur in the context of a convergence between the steady development of the Chinese armed forces, especially the People's Liberation Army (PLA),⁴ and its amphibious doctrine, which has clear implications for Taiwan.

For much of the past 15 years, the PLA has enjoyed annual double-digit growth in its defense budget. As a result, the official PLA budget has doubled since 1998.⁵ Some of this has been used for improving military pay and the soldiers' standard of living. In 2006, the PLA increased military salaries across the board—a substantial expenditure given the 2.25 million personnel in China's active duty military.⁶ Such increases are necessary to attract and retain the higher quality personnel

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necessary to fight today's "local wars under conditions of informatization."⁷

Yet much of the increased funding has been used to improve the quality of the PLA's equipment. This sustained investment in military acquisition since the late 1990s has resulted in a significant influx of new systems for all of the PLA services and a concomitant growth in their capabilities.

Chinese Military Capabilities. The ground forces, the preeminent PLA service, number some 1.7 million troops, organized into seven military regions and 18 group armies. These include a range of armored, mechanized, and motorized divisions and brigades as well as air defense brigades and amphibious assault divisions.⁸ The steady increase in funding has enabled the acquisition of new main battle tanks, armored personnel carriers, self-propelled artillery, and attack and transport helicopters. However, as PLA writings still regularly note, the PLA is only a "half-mechanized army," and many infantry divisions appear to be "leg" infantry (i.e., neither motorized nor mechanized).⁹ For example, one PLA article notes the "twin burdens" of having

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1. Taiwan Relations Act, 22 U.S. Code §§ 3302(a).
 2. The terms "ROC" and "Taiwan" will be used interchangeably in this paper, but should not be taken to imply anything about the political situation on Taiwan. Similarly, the terms "PRC" and "China" will be used interchangeably.
 3. Foster Klug, "AP Sources: US Decides on New Taiwan Arms Sales," ABC News, January 25, 2010, at <http://abcnews.go.com/Business/wireStory?id=9658885> (February 18, 2010).
 4. The Chinese armed forces technically also include the People's Armed Police (PAP) and the Chinese militia. Dennis J. Blasko, *The Chinese Army Today: Tradition and Transformation for the 21st Century* (New York: Routledge Press, 2006), p. 18.
 5. Dennis Blasko, "The Pentagon-PLA Disconnect: China's Self Assessments of Its Military Capabilities," Jamestown Foundation *China Brief*, July 3, 2008.
 6. Xinhuanet, "Defense Budget Increase Aims at Army Stability," Embassy of the People's Republic of China in the United States of America, March 7, 2006, at <http://www.china-embassy.org/eng/xwt/239142.htm> (February 18, 2010).
 7. U.S. Department of Defense, *Military Power of the People's Republic of China, 2008*, at http://www.defense.gov/pubs/pdfs/China_Military_Report_08.pdf (February 18, 2010).
 8. International Institute for Strategic Studies, *The Military Balance 2008* (London: Routledge, 2008), p. 376.
 9. *Ibid.*

to both mechanize and informatize (i.e., incorporate advanced information technologies).¹⁰

The PLA Navy (PLAN) is one of the world's largest navies. It fields nearly 60 nuclear-powered and conventionally powered submarines.¹¹ The bulk of China's diesel-electric submarines, including the Russian-built *Kilo*-class and the Chinese-built *Song*-class and *Yuan*-class, are of recent construction and very quiet. The Chinese are also reportedly investigating the possibility of developing new, air-independent propulsion (AIP) systems for some of their submarines.¹² Furthermore, PLAN submarines are armed with anti-ship missiles and wake-homing torpedoes that pose a growing threat to any surface forces that might be arrayed against them.

In addition, the PLAN has some 30 major surface combatants, the most modern of which field advanced anti-ship cruise missiles and advanced surface-to-air anti-aircraft systems. They are supported by nearly 50 frigates and nearly 200 coastal patrol craft as well as a variety of fast attack craft (FAC). To conduct amphibious assaults, the PLAN has around 70 landing ships of various displacements, including high-speed air-cushion vehicles.¹³ In event of a conflict, the PLA can also call upon one of the world's largest merchant fleets to provide additional sealift for follow-on echelons.

The PLAN Air Force (PLANAF) has about 700 shorter-ranged combat aircraft, including several hundred fighters and fighter-bombers and perhaps two dozen longer-range bombers.¹⁴ These range from newly built H-6 bombers (based on 1950s-vintage Tu-16 Badger designs) to old J-6 fighter aircraft (the equivalent of the MiG-19) to more recent JH-7/FBC-1 and modern Su-30MKK aircraft.

The PLA Air Force (PLAAF) has some 250,000 personnel,¹⁵ organized into 32 air divisions, each with up to four regiments, which include fighters, ground attack aircraft, long-range bombers, transport aircraft, electronic warfare and reconnaissance craft, and a handful of tankers.¹⁶ As with the PLAN and PLANAF, the PLAAF flight line is composed of a mix of old aircraft, some dating back to the 1960s, as well as more modern designs, including the domestically designed J-10 and the Russian-built Su-27 and Su-30MKK. These latter aircraft, including the Chinese-designed J-11, are of the same generation as the U.S. F-15, F-15E, F-16, and F-18 combat aircraft.¹⁷ China is developing a new generation of fighter aircraft, counterparts to the U.S. F-22 and F-35.¹⁸

The PLAAF is also responsible for a variety of ground-based air defenses. It controls several divisions equipped with advanced systems, such

10. Zhang Xuncai, "Guide Army Information Building with Scientific Development Concept," *Zhongguo Junshi Kexue* (China military science), Vol. 19, No. 4 (2006), p. 21.

11. International Institute for Strategic Studies, *The Military Balance 2008*, pp. 377–378.

12. Richard A. Bitzinger, "Air Independent Powered Submarines in the Asia-Pacific: Proliferation and Repercussions," Nanyang Technical University, R. Rajaratnam School of International Studies *Commentaries* No. 62, June 23, 2009, at <http://www.rsis.edu.sg/publications/Perspective/RSIS0622009.pdf> (February 18, 2010).

13. International Institute for Strategic Studies, *The Military Balance 2008*, p. 378.

14. *Ibid.*, p. 379.

15. The PLAAF controls not only the various fighters, bombers, and transport aircraft, but also strategic surface-to-air missile forces, anti-aircraft artillery units, and the three airborne divisions. *Ibid.*, p. 379.

16. *Ibid.*

17. For further discussion of the growing fighter gap, see Mackenzie M. Eaglen and Lajos F. Szaszdi, "The Growing Air Power Fighter Gap: Implications for U.S. National Security," Heritage Foundation *Background* No. 2295, July 7, 2009, esp. p. 4, at <http://www.heritage.org/research/nationalsecurity/bg2295.cfm>. See also Mackenzie M. Eaglen, "Fixing the Fighter Gap Facing the U.S. Navy, Air Force, and Air National Guard," Heritage Foundation *WebMemo* No. 2531, July 9, 2009, at <http://www.heritage.org/research/nationalsecurity/wm2531.cfm>.

18. "Deputy Commander of the PLA Air Force: The Maiden Flight of the Domestically Produced Fourth Generation Fighter," *Huanqiu Shibao* (Global times), November 10, 2009, at http://news.syd.com.cn/content/2009-11/10/content_24615140.htm (February 18, 2010). The Chinese refer to the F-15, F-16, and F-18 as third-generation fighters and the F-22 and F-35 as fourth-generation fighters, whereas U.S. analysts refer to them as fourth-generation and fifth-generation, respectively.

as the Russian-built S-300PMU1/SA-10B and S-300PMU2/SA-10C and the Chinese-designed Hongqi (Red Flag) HQ-9 and HQ-10 air defense missiles, in addition to older HQ-7 and HQ-2 systems.¹⁹ The more modern systems are believed to be comparable in effectiveness to the Patriot PAC-2, PAC-2+, and PAC-3. The PLAAF is also responsible for several thousand anti-aircraft guns.

In addition, as part of China's forced entry capability, the PLAAF controls 35,000 airborne troops organized into three divisions.²⁰ As seen in the 2009 National Day parade, elements of these divisions are now equipped with armored vehicles designed for airdrops, similar in concept (but not design) to the Soviet BMD mechanized airborne combat vehicle. This gives the assault elements more protected firepower and mobility than the traditional light infantry airborne unit.

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Finally, the Chinese Second Artillery fields hundreds to thousands of short-range, medium-range, and intermediate-range ballistic missiles.²¹ The bulk of these missiles are arrayed opposite Taiwan and deployed on mobile launchers, making them difficult to target. In addition, China has developed land-attack cruise missiles, which may also fall under the purview of the Second Artillery. There are also persistent reports that China is developing an anti-ship ballistic missile system, which could target major combatants (e.g., U.S. aircraft carriers).

However, simple bean counts tell only part of the story. How well can the PLA employ these capabilities? Since the early 1990s, the PLA has steadily sought to develop a doctrine that accounts for the major changes in modern warfare. By 1999, after witnessing not only the first Gulf War, but also NATO operations in the Balkans, the PLA unveiled a set of regulations governing PLA operations.²² These new regulations highlighted joint operations as the hallmark of future warfare, which would be focused on "Local Wars Under Modern, High-Technology Conditions" (i.e., localized, limited wars with an emphasis on precision munitions and information technology). In essence, the PLA was shrugging off the old "people's war" mentality of relying on "rifles and millet" and overwhelming numbers (e.g., human wave attacks) with an emphasis on guerrilla warfare and protracted conflict.

Instead, the PLA would focus on developing not only combined arms operations (a growing focus as early as the mid-1980s) among branches within a service, but also joint operations among services. As one PLA analysis described it, the "fundamental expression" of Local Wars Under Modern, High-Technology Conditions would be joint campaigns.²³ Importantly, joint operations are an essential element of a successful amphibious operation. By definition, amphibious assaults are joint because they involve land, sea, and air forces. By highlighting joint operations, the PLA was essentially making a virtue of a necessity and incorporating a prerequisite for a successful Taiwan invasion into its most basic training and operational planning.

PLA Concepts of Amphibious Landing Campaigns. Subsequent PLA writings on amphibious

19. International Institute for Strategic Studies, *The Military Balance 2008*, p. 380.

20. *Ibid.*, p. 376.

21. *The Military Balance 2008* lists 725 DF-11 and DF-15 short-range ballistic missiles, and 35 DF-21s. *Ibid.*, p. 376. The U.S.–China Economic and Security Review Commission cites a study listing 700–750 DF-11s alone, as well as 300–350 DF-15s. U.S.–China Economic and Security Review Commission, *2009 Report to Congress*, p. 240, at http://www.uscc.gov/annual_report/2009/annual_report_full_09.pdf (February 18, 2010).

22. For further discussion of the PLA's doctrinal transition, see James Mulvenon and David Finkelstein, eds., *China's Revolution in Doctrinal Affairs* (Alexandria, Va.: Center for Naval Analysis, 2005), at <http://www.cna.org/documents/doctrinbook.pdf> (February 18, 2010).

23. Gao Yubiao, ed., *Lianhe Zhanyi Jiaocheng* (Joint campaign course materials) (Beijing: Academy of Military Science Publishing House, 2001), p. 12.

landing campaigns provide further indications of PLA operational concepts and, implicitly, the requirements attendant with a successful campaign. According to PLA assessments, amphibious landing operations are marked by several essential characteristics.

- Amphibious landing operations are difficult to conceal from an opponent.
- They require securing information superiority, air superiority, and maritime superiority.
- They involve high-intensity conflict, including high rates of weapons expenditure and casualties, especially in securing the initial beachhead.
- The command and control associated with them is very difficult, especially because they are joint operations.
- The logistical support is difficult.²⁴

In light of these considerations, PLA writings suggest that certain tasks are associated with a successful amphibious operation. These techniques, in turn, suggest potential countermoves²⁵ that might complicate an amphibious operation:

- *Careful planning and preparation.* Given the complexity of amphibious operations, extensive planning is required to prepare for potential contingencies. Implicitly then, the defender's ability to create surprises or otherwise disrupt the landing operation will force the attacker to diverge from his plans, which in turn will place the operation at risk.
- *Use of a variety of techniques to secure information, air, and maritime superiority.* The ability to secure the "three superiorities" will likely comprise a major portion of the PLA's planning effort. The Taiwan military has concluded that the key areas of PLA capability improvement include air strike, maritime strike, and electronic warfare.²⁶ A defender who prevents the attacker from obtaining superiority in these areas, or at least

challenges the attacker's ability to maintain superiority, can put the attack's prospects for success in doubt.

- *Concentration of the best forces.* This suggests that the attacker is unlikely to retain a strategic reserve of advanced forces. If the attacker truly has concentrated all of his best forces, then if they are defeated, there will not be sufficient forces to mount a second effort. (However, especially in the context of the PLA, this is not the same as suggesting that the attacker has been disarmed.) In essence, the attacker is expected to go "all in," employing his best forces and most advanced capabilities.
- *Rapid, sustained attacks and rapid exploitation of any initial successes.* Preventing close coordination among the attacking forces so that the attacker cannot sustain his efforts and exploit successes would likely disrupt the plan and lead to defeat in detail.
- *Concentration of integrated logistical support at the most essential points.* Sustained attacks require a sustained supply of ammunition, fuel, and spare parts. The logistical chain in an amphibious operation against Taiwan would run from the assaulting forces to the beachhead or port to the supply vessels and in turn across the Taiwan Strait to Chinese ports and supply depots. Disrupting any part of the chain will eventually affect the front-line forces.
- *Conducting not only physical attacks, but psychological attacks aimed at shaking an opponent's will to resist.* Breaking an opponent's will is essential because it reduces not only the cost of battle, but also the prospects of a resistance movement developing after the formal end of hostilities.

Themes in PLA Writings. Several themes emerge from the PLA's discussion of these elements.

24. Drawn from Zhang Yuliang, ed., *Zhanyi Xue* (The science of campaigns), 2nd ed. (Beijing: Academy of Military Science Publishing House, 2006), pp. 310–312.

25. Drawn from *ibid.*, pp. 312–316.

26. The other two areas identified by the Taiwan military are precision strike and amphibious landing capabilities. Republic of China Ministry of National Defense, *Guofang Baogao Shu* (Year 98 defense report), 2009, pp. 55–56.

The Importance of Securing Information Dominance. Information dominance is the prerequisite for securing air and maritime superiority and is the means by which the attacker can maintain the initiative. This includes the use of electronic and human reconnaissance to identify the enemy's order of battle and disposition and preserving one's own command, control, and communications system to maximize coordination of forces. In addition, it involves attacking the opponent's C4ISR²⁷ infrastructure, especially command and control nodes, to deny the opponent an intact ability to coordinate its defenses.

The Importance of Disrupting the Enemy's Overall Defense. Both hard-kill (e.g., missiles and air attacks) and soft-kill (e.g., cyberwarfare) techniques should aim to prevent and forestall a coordinated defense. The aim is not to simply kill a large number

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of defenders, but to paralyze the overall defense. In this manner, even individually capable units that survive the onslaught would be unable to coordinate their responses effectively.

The Importance of Intangible Factors in Combat. The PLA's emphasis on the importance of breaking an opponent's will is consistent with Sun Tzu's notion of winning without fighting, as well as Mao's military theories, which emphasized the importance of the human factor. The PLA would almost certainly prefer to undermine the willingness of the Taiwan population, political leadership, and military to resist, rather than engage in a campaign of attrition to secure the island.

PLA writings therefore specifically note that priority targets include military and political command

centers, electronic warfare centers, air and naval bases, air defense systems, and surface-to-surface missile sites. Surviving enemy air and naval forces then must be denied the ability to interdict the attacking forces and their logistical support through a combination of missiles, mines, special operations forces, and the efforts of the land, sea, and air forces.

Taiwan's Defenses

Even as the PLA has been formulating its plans for taking Taiwan, the Republic of China's military has been taking steps to ensure the security of the island.

The ROC Army's 200,000 soldiers are organized into three corps and almost 40 brigades. Like the PLA's ground forces, the bulk of Taiwan's units are "leg" infantry. There are six armored brigades, one armored infantry brigade, and three motorized infantry brigades.²⁸ The army is equipped with 1960s-vintage M48H Brave Tigers, which have upgraded electronics and sensors, and somewhat newer M60A3 main battle tanks and M113 armored personnel carriers. Much of its tube artillery is towed, although it also deploys a variety of multiple rocket launchers, including the Ray Ting 2000, a domestic variant of the American M270 Multiple Launcher Rocket System. Its fleet of AH-1W Cobra attack helicopters is being supplemented with the AH-64D Apache with the Longbow radar system, and it is expected to receive UH-60 Blackhawk transport helicopters.²⁹

The ROC Navy (ROCN) is mostly equipped with retired American naval vessels, including four *Kidd*-class destroyers armed with Harpoon anti-ship missiles and SM-2 Standard Medium-Range surface-to-air missiles. It has 22 frigates, which will be supplemented with eight *Oliver Hazard Perry*-class frigates that are armed with a mix of anti-submarine and anti-ship systems.³⁰ Finally, it has more than 60 fast attack craft equipped with anti-ship missiles³¹ and 15,000 marines organized into three brigades.

27. Command, control, communications, computers, intelligence, surveillance, and reconnaissance.

28. International Institute for Strategic Studies, *The Military Balance 2008*, p. 403.

29. Glenn Kessler, "Obama Commends Taiwan Arms Sale," *The Washington Post*, October 8, 2008, at http://voices.washingtonpost.com/44/2008/10/08/obama_commends_taiwan_arms_sal.html (February 18, 2010).

The ROC Air Force (ROCAF) has about 450 fighters and bombers, ranging from obsolescent F-5 fighters to the indigenously produced Ching-Kuo fighter and about 200 F-16A/Bs and Mirage 2000s. The proposed sale of 66 F-16C/Ds would replace the 89 F-5s, which were designed in the 1950s and entered production in the early 1960s.³²

To counter the various Chinese missiles arrayed against the island, the Taiwan armed forces are shielded by six PAC-3 Patriot batteries and six Tien Kung (Sky Bow) surface-to-air missile systems manned by the ROC Army. However, these systems are not tactically mobile, so their firing locations have likely been identified and targeted.

In any confrontation with the PRC, Taiwan's forces will likely be outnumbered. The key to defeating any Chinese assault will therefore heavily depend on effectively deploying and allocating Taiwan's limited defense resources to maximize their impact.

During his 2000 presidential campaign, Chen Shui-bian advocated the concept of "Decisive Campaign Outside the Territory."³³ This meant engaging any attacker at sea as well as on the Chinese side of the Taiwan Strait, raising the potential for Taiwan to act preemptively to neutralize enemy military targets if an enemy attack was deemed imminent or unavoidable. However, once Chen came to power, his administration jettisoned this aspect as excessively escalatory and provocative. Instead, his administration focused on developing deep strike capabilities within the air force and navy to engage the enemy before they could establish a beachhead on Taiwan, but not preemptively.³⁴ The goal was to inflict casualties throughout the

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course of any attack, from embarkation of enemy forces throughout their transit by sea or air to the landing on the island.

Toward these ends, Taiwan developed the Hsiung Feng-2E (HF-2E) cruise missile, which can engage the enemy at a distance of 600 kilometers.³⁵ These missiles allow the ROC armed forces not only to target Chinese ports of embarkation, but also to cover many PLAAF and PLANAF airfields, reducing the PLA's ability to establish air and naval superiority. Taiwan is developing the HF-2E Block II, a variant with a reported range of 800–1000 kilometers, which would place even more PLA facilities at risk.³⁶

The Taiwan 2004 National Defense Review also emphasized the acquisition of "precision stand-off weapon systems and...electronic countermeasure forces in order to augment our deep strike capabilities."³⁷ It posited that stand-off capabilities would buy the Taiwan defenses more time, both by inflicting casualties among assault forces as they were massing and by disrupting the intricate command and control structures required to coordinate such a massive undertaking as a full-blown invasion of the island.

Such a course of defensive action is predicated in part on PLA planning, which indicates that causing significant casualties among PLA forces would likely disrupt its operational plans. In essence, Taiwan's

30. Agence France-Presse, "Taiwan Plans to Buy US Frigates Despite China Thaw," Google News, January 11, 2010, at <http://www.google.com/hostednews/afp/article/ALeqM5gqdLeu9HUQf5hwymptRbd3KJGjSw> (February 18, 2010).

31. International Institute for Strategic Studies, *The Military Balance 2008*, p. 404.

32. Northrop Grumman, "F-5 Tiger," at <http://www.as.northropgrumman.com/products/f5tiger/index.html> (February 18, 2010).

33. York W. Chen, "The Evolution of Taiwan's Military Strategy: Convergence and Dissonance," Jamestown Foundation *China Brief*, November 19, 2009, p. 8.

34. *Ibid.*

35. The Taiwan Strait is 160 km wide at its narrowest point.

36. *Ibid.*, p. 10, and Wendell Minnick, "Taiwan Continues Cruise Missile Effort," *Defense News*, March 23, 2009, at <http://www.defensenews.com/story.php?i=4001377> (February 18, 2010).

37. Chen, "The Evolution of Taiwan's Military Strategy," p. 10.

objective is to deter China from launching an assault in the first place by making it clear that any Chinese operational plan would face a high likelihood of disruption and therefore failure. Even if deterrence failed, destroying the initial echelon would delay the PLA in establishing and exploiting a beachhead, buying time both for an ROC counterstroke and for U.S. forces to deploy and help to stanch any further PLA assaults.

With the transition from Chen to Ma Ying-jeou, the focus shifted back toward defeating the PLA on Taiwan's shores. In a February 2008 speech, Ma discussed the "Hard ROC" concept. Rather than pursue the ability to strike at the PRC's territory, which Ma indicated might lead to a preemptive PRC threat, Taiwan should, instead, build "an integrated defensive capability that will make it impossible to scare us, blockade us, occupy us, or wear us down."³⁸ The objective would be to ensure that the Taiwan military could maintain an effective resistance, even under bombardment and attack. As the subsequent 2009 ROC Defense Report states, Taiwan's military should be as "steadfast as a boulder" (*gu ruo pan shi*) and would strive to create a Taiwan defense capability that "cannot be intimidated, cannot be seized, cannot be devoured, cannot be crushed."³⁹ This would entail capitalizing on Taiwan's presumed advantages of local mobility, knowledge of the local terrain, and time.

Under the Hard ROC concept, Taiwan would seek to ride out the initial assault, denying the PRC a quick victory and sustaining resistance—implicitly until the United States could intervene. Key requirements include "ensuring the survivability of Taiwan's warfighting capability and infrastruc-

ture...and improving defense mobilization activities."⁴⁰ Efforts to achieve this resiliency include the improvement of rapid runway repair capabilities to allow ROCAF airbases to survive and sustain operations even after repeated attacks and the acquisition of transport helicopters to rapidly redeploy forces after identifying the enemy's main thrust.⁴¹ The ability of the ROC armed forces to weather an initial PLA onslaught and still offer coordinated resistance would, it is hoped, deter any assault in the first place.⁴²

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For all their differences, both the Chen and Ma administrations recognized the importance of improving the island's command and control infrastructure. This is essential to maximizing the military's available capabilities, such as launching joint operations against invading PLA forces while they are still at sea or in the air. Under Chen Shui-bian, Taiwan began funding for the Po Sheng (Broad Victory) C4ISR system. This would be Taiwan's first national-level joint command and control system, and is roughly comparable to the U.S. Joint Tactical Information Distribution System (JTIDS)—the backbone of U.S. military communications and data sharing.⁴³ When Ma came into office, he noted, "We must also reduce the fragility of our C4ISR system."⁴⁴ The 2009 Taiwan Quadrennial Defense Review concluded that, to meet its defense require-

38. Ma Ying-jeou, "A SMART Strategy for National Security," speech before the Association for the Promotion of National Security, February 26, 2008, at <http://www.kmt.org.tw/english/page.aspx?type=article&mnum=110&anum=4141> (February 18, 2010).

39. Republic of China Ministry of National Defense, *Guofang Baogao Shu*, p. 69.

40. U.S.–China Economic and Security Review Commission, *2009 Report to Congress*, p. 241.

41. Chen, "The Evolution of Taiwan's Military Strategy," p. 10.

42. Ma, "A SMART Strategy for National Security."

43. Edward W. Ross, "Improving Taiwan's Military Capabilities, C4ISR Integration," paper presented to the U.S.–Taiwan Business Council Defense Conference 2009, September 27–29, 2009, p. 10, and Wendell Minnick, "Ex-PACOM Official Convicted of Spying for China," *Defense News*, October 5, 2009, at <http://www.defensenews.com/story.php?i=4302418> (February 18, 2010).

ments, Taiwan must acquire “a higher level of systematic links to reduce the time required for the cycle of ‘detection—processing—decision—action,’” thereby improving its joint warfare capabilities.⁴⁵ In essence, it needs to improve its C4ISR capabilities. This includes electronic warfare, and air and naval surveillance capabilities.

To this end, Taiwan has continued to make substantial investments in C4ISR capabilities, including the Po Sheng defense system, so that Taiwan’s limited assets can be employed most effectively. The Po Sheng program is a centerpiece of this effort—a scalable C4ISR system of datalinks that provides Taiwan with a networked sensor-weapon grid that allows land, sea, and air forces to share information and maintain situational awareness under a joint command and control system.⁴⁶ It “maximizes unit, sensor, and weapon employment... [and] optimizes weapon-target pairing for layered defense.”⁴⁷ Regrettably, limits in overall Taiwan defense spending has meant that a number of key Taiwan weapons systems are still not integrated into the program, including the Patriot anti-missile batteries and the *Lafayette*-class frigates.

The Po Sheng program and other C4ISR enhancements are essential to any successful defense. Just as the PLA seeks to exploit asymmetric strategies to counter the U.S. military in the event of a major conflict, the Taiwan military, through improved C4ISR capabilities, hopes to pose asymmetric responses to PLA attacks.

The Role of the United States

While the Taiwan armed forces are ultimately responsible for the defense of Taiwan, the disparity in numbers and capabilities—including, ultimately, the Chinese nuclear threat—means that the United States is indispensable in ensuring their success. In this regard, the United States plays two key roles. First, the United States is a key provider of the physical elements of security. For a variety of reasons, at

present only the United States is willing to sell Taiwan advanced military equipment. Moreover, under the terms of the Taiwan Relations Act, the United States effectively serves as a guarantor of peace and stability across the Taiwan Strait, as it seeks to ensure that the political status quo is altered only with the consent of both sides. Operationally, this has meant that the United States is prepared to provide military assistance to Taiwan in the event of a unilateral PRC decision to use force against the island.

Equally as important, the United States provides political support to the people and government of Taiwan. As the diplomatic space of the Republic of China has shrunk and China’s power has become more prominent, U.S. support has been essential in ensuring that the people of Taiwan are able to chart their own path.

In this context, the policies that the Obama Administration pursues with regard to Taiwan will be key determinants of the Taiwan Strait situation for the foreseeable future. The United States therefore needs to provide Taiwan with both the physical and the political means to defend itself.

Specifically, the United States needs to:

- **Help to equip Taiwan to counter any PLA attack.**

To defend itself, Taiwan must have the necessary equipment. Given the realities of the global arms market, the United States is the only supplier of advanced weapons that is willing to challenge PRC pressures and provide the ROC armed forces with weapons.

Therefore, it is essential that the U.S. make clear that it *will* provide Taiwan with the necessary equipment to meet the island’s military needs. Based on the ROC Ministry of National Defense’s own statements of requirements, this would include the means of effecting a Hard ROC capability (including the ability to absorb the first blow), countering decapitating strikes, employing mobility to counter

44. Ma, “A SMART Strategy for National Security.”

45. Republic of China Ministry of National Defense, *Quadrennial Defense Review 2009*, pp. 73–74.

46. Shirley Kan, “Taiwan: Major US Arms Sales Since 1990,” Congressional Research Service *Report for Congress*, December 2, 2009, p. 17, at <http://fas.org/sgp/crs/weapons/RL30957.pdf> (February 18, 2010).

47. Ross, “Improving Taiwan’s Military Capabilities, C4ISR Integration,” p. 10.

an attack, and sustaining the defenses even in the face of extended enemy attacks.⁴⁸

This would suggest that continued provision of C4ISR systems should be a priority for the Obama Administration because it is a key part of Taiwan defense planning to counter an invasion. At the same time, providing improved missile defense capabilities is important, especially given the PRC's ongoing buildup of both cruise and ballistic missiles opposite Taiwan. Moreover, these systems almost certainly need to be made more tactically mobile so that they can relocate after the initial attack.

What is less clear is how to provide the design information to build diesel-electric submarines. The United States does not build or deploy such boats and is unlikely to do so in the foreseeable future. The states that do manufacture such boats (e.g., France, Germany, Italy, Sweden, Russia, and Japan) are unlikely to sell them to Taiwan. Even if the U.S. provided Taiwan with the designs for such systems, creating an indigenous submarine-building industry would take a long time and a large amount of funding. Taiwan would probably be better served by spending its money obtaining other capabilities—including land-based anti-ship missiles, more attack helicopters, and, possibly, more robust mine technology—that would hold PLA logistics support capacity and amphibious transport capabilities at risk.

Furthermore, anti-C4ISR capabilities are a particularly worthwhile investment. Given the difficulties associated with amphibious assaults, the ability to disrupt PLA command and control systems would seem to complement enhanced Taiwanese C4ISR capabilities. Taiwan, with its extensive electronics industry, would probably not require significant U.S. assistance in this regard.

- **Maintain a robust U.S. military capability, which will itself deter any PLA attack.**

Another element of the security equation in the Taiwan Strait is the direct role of the U.S. military, as opposed to its indirect role of providing arms and equipment to Taiwan. To meet its obligations and to cope with any potential contingencies, the United

States must maintain a robust capability in the Western Pacific so that the PRC has no illusions that it could successfully invade Taiwan if the U.S. opposed it.

In this regard, while Secretary of Defense Robert Gates is focusing on the current wars that confront the United States, the U.S. needs to continue planning and preparing for potential wars. This means not only retaining the physical ability, but also training for high-intensity warfare in addition to counterinsurgency. It also means maintaining the acquisition and the research and development programs necessary to ensure that tomorrow's military will have the cutting-edge systems to do the job.

In light of the PLA's ongoing military buildup, this would include advanced air combat systems to deal with China's next-generation fighters, anti-ballistic missile capabilities, and systems to deal with China's comprehensively improving naval capabilities.

- **Continue to provide the political support to Taipei so that it can make its own decisions, not under duress from Beijing.**

For all of the material support that the U.S. can provide directly and indirectly, political support is arguably most important. If Taiwan is to resist PRC pressure, including psychological warfare, it must know that the United States will support it. Otherwise, on its own, Taiwan will inevitably lose simply because of the asymmetry of arrayed forces, both real and potential.

This is not to suggest that Washington should give Taipei a blank check. As the Bush Administration noted, a unilateral change in the Taiwan Strait situation is destabilizing, whether precipitated by action in Beijing or in Taipei. However, the Ma government has made it clear that it has no intention of altering the current status quo. Consequently, it deserves American support.

In this context, the proposed sale of F-16C/Ds plays an essential role. The sale of 66 advanced F-16s will not exactly address the aerial imbalance across the Taiwan Strait, but it would nonetheless improve the situation slightly, especially given the age of the F-5s that they would replace.

48. Republic of China Ministry of National Defense, *Guofang Baogao Shu*, p. 79.

However, the political signal that such a sale would send should not be underestimated. It would clearly underscore the continuing American interest in the Taiwan Strait situation and make clear that the U.S. will not sacrifice Taiwan in favor of China, be it over global warming or other issues.

This is especially pressing in light of the potential Chinese anti-ship ballistic missile threat. The prospect of China being able to threaten American carrier groups raises the question in some quarters of whether the U.S. would be prepared to risk these platforms on behalf of Taiwan. The level of anxiety often expressed in Washington circles over this possibility raises doubts about the level of American commitment. It is important to nip such doubts in the bud before they fundamentally undermine U.S. credibility and degrade Taiwan's security.

The willingness to sell weapon systems to Taiwan and other U.S. allies, even in the face of PRC oppo-

sition, would send a clear signal that U.S. defense policy will support U.S. interests, whatever China's capabilities and reactions.

Conclusion

Despite improving relations between Beijing and Taipei, the Taiwan Strait situation remains a potential flashpoint for conflict. As long as the relationship between the two sides remains uncertain, it will remain an American interest to help to ensure that neither side will try to alter the status quo. An essential element of this is providing Taiwan with the means to resist coercion by the PRC—both physical and moral. Providing Taiwan with appropriate arms is therefore not only an obligation under the TRA, but a policy that supports America's own interests in the region.

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