

DETER, DEFEND, REPEL, AND PARTNER

A D E F E N S E S T R A T E G Y
F O R T A I W A N

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Introduction

Taiwan is a great success story. It is a prosperous, thriving democracy living at peace—and it wants to remain at peace. A recent poll shows that more than 90 percent of Taiwanese support maintaining the “status quo,” meaning principally that an overwhelming majority of the island’s citizens wants to avoid a conflict with the mainland if at all possible while retaining their de facto sovereignty.¹

But in order to maintain that peace, Taipei will have to build a military strong enough to make the use of force against Taiwan unlikely. The Republic of China (ROC) faces one of the world’s most daunting security challenges. Over the past thirty years, the People’s Republic of China (PRC) has gone from being an impoverished, technologically backward state to a nation of increasing wealth, power, and international stature. The PRC’s stated ambition to unify Taiwan with China has neither changed nor slackened. As highlighted in the March 2009 Department of Defense annual report to Congress on China’s military, “China’s armed forces are rapidly developing coercive capabilities . . . [that] could in the future be used to pressure Taiwan toward a settlement of the cross-Straits dispute on Beijing’s terms while simultaneously attempting to deter, delay, or deny any possible U.S. support for the island in case of conflict.”² Even though cross-Straits tensions have been significantly reduced under the Ma Ying-jeou administration, the ROC’s defense establishment continues to fulfill a vital role in allowing the people on Taiwan to make their own choices about the island’s future. And indeed, arguably, relations between the PRC and the ROC are likely to be more peaceful and productive if the ROC is not perceived as being in a position of military weakness.

The ROC can take great pride in what it has become: a prosperous, liberal democracy. Its strategic goal should be to preserve those achievements,

retain its de facto sovereignty, and allow its citizens to decide their future in an environment in which coercion is minimized.³ Although diplomatic and economic policies can certainly contribute to achieving this goal, they will not be sufficient. This report’s purpose is to describe how Taiwan’s military can best contribute to achieving the ROC’s strategic objectives. Taking account of both Taiwan’s political, economic, and military limitations and its many strengths and advantages, we lay out a future defense strategy that, we believe, is realistic about what Taiwan can do to defend itself adequately. Cognizant of the ROC’s relatively small size and international isolation, we were careful to lay out realistic and achievable goals.

The ROC should be prepared to respond to and defend against an array of threats and military contingencies. These may range from coercive PRC actions involving limited uses of force—such as intimidating live-fire exercises, a blockade, or seizure of an offshore island—to a full-scale invasion designed to bring the island of Taiwan under the control of the PRC. Complicating the ROC’s defense planning is the fact that the “triggers” for the PRC’s use of force and its courses of action cannot be predicted with any degree of certainty. Stated “red lines” for PRC military action have included a formal declaration by Taiwan of “independence,” internal unrest in Taiwan, foreign intervention in Taiwan’s internal affairs, foreign troops stationed in Taiwan, or even indefinite delays in the resumption of cross-Straits dialogue on unification.⁴

Ideally, the ROC’s strategic goals should be to convince the PRC to renounce the use of military force as a means to resolve its differences with Taiwan and to effect a durable peace in the Taiwan Strait. The more immediate objective of the ROC military, however, should be to deter the PRC’s use

of force through a credible ability to deny the People's Liberation Army (PLA) its military objectives. To do so, the ROC will need to match the PRC's increasingly diverse array of coercive military options with defense strategies that make it less likely that any one coercive option would look attractive to PLA military planners. As we point out, this does not mean that Taiwan's military should try to match the PRC ship for ship, plane for plane, or missile for missile. To the contrary, as an island-state and as a nation with a highly developed technological base, Taiwan can employ asymmetric strategies to help deter China's use of any particular coercive military strategy. Taiwan's defense transformation should prioritize development of a flexible and well-exercised military that is capable of responding to a wide range of contingencies. The armed forces of

Taiwan will need to think about warfare in both conventional and unconventional ways—that is, while the ROC has to protect the island's people, territory, and assets, it also, like a guerrilla force, must, as Henry Kissinger once said about guerrilla forces, “win by not losing.”

Our report is not intended to serve as the final word on Taiwan's evolving defense and security requirements. Instead, it is meant to augment existing reviews, examine alternative competitive defense and security strategies, and offer possible ways to broaden and deepen unofficial U.S.-ROC defense and security relations. At a minimum, our report is designed to help generate serious reflections on how best to preserve the ROC's own accomplishments as a people and a government and to enable it to choose its own future as free of coercion as possible.

Taiwan's Security Environment

The PRC poses a wide range of military, economic, and political challenges to the ROC. Beijing remains committed to unifying Taiwan with the mainland. The ROC remains quite isolated internationally and faces a growing imbalance in the military forces across the Strait. In addition, there are a number of demographic, economic, and social trends both on the mainland and in Taiwan that could well affect the security situation in the Strait. Taiwan's defense establishment may not have a direct role to play in all of these domains, but an understanding of the full spectrum of the challenges posed by the PRC makes clear the ROC's need for a strong military.

Political Trends

Recent developments in cross-Strait relations have raised hopes for a more peaceful future. Taiwan and the PRC, for example, have initiated regular direct flights between the island and the mainland and direct mail delivery. They are also working to deepen economic ties. As important as these developments might be, they do not guarantee that there will be peaceful relations in the future. Indeed, history is replete with examples of major trading partners ending up in a conflict with each other.

Taiwan's primary security challenge remains the PRC's revanchist ambitions with regard to the island. The Chinese Communist Party has refused to renounce the right to use force against Taiwan, even as cross-Strait tensions have eased. Beijing still holds the position that Taiwan is an integral part of "one China" and that the separation between the mainland and the island is a historical injustice that must be righted. Without a doubt, these claims pose the greatest threat to Taiwan, and some other challenges,

such as Taiwan's *relative* economic vulnerability, stem from China's ceaseless attempts to isolate and intimidate Taiwan.

Despite its emergence as a nascent yet vibrant and prosperous democracy, the ROC's isolation in the international community has complicated its ability to counter the security challenge posed by the PRC. As the PRC's global influence has grown, along with its perceived centrality in solving a number of problems of global significance, there has also been an increased wariness on the part of other governments about upsetting China by being seen as wanting to lessen Taiwan's isolation or support it in other ways. Hence, even as the problems posed by the PRC's military buildup to Taiwan's security grow, there appears to be declining European and American willingness to support Taiwan's legitimate defense requirements.

Taiwan's international isolation is seen most clearly in its lack of a binding security commitment—in the form of a mutual defense treaty—from the United States or any other foreign partner. Because the ROC cannot be assured of international intervention in the event the PRC should use force, prudence dictates that Taiwan's planners assume an independent defense posture⁵ while also preparing to operate with ad hoc coalition partners in an efficient, effective, and safe manner.

Finally, while there is a broad consensus within Taiwan about national objectives, different perspectives within Taiwan on issues such as national identity and the country's proper international legal personality have in the past complicated efforts to develop an effective and coherent defense strategy. Since Taiwan is a free society, democratically elected leaders in Taipei will inevitably take into consideration a wide variety of perspectives and views when considering how best to transform the military and even what particular weapon systems should be

procured. Indeed, as cross-Strait tensions decrease, some in Taiwan can be expected to question the need for a strong military and the investment of limited resources required to maintain one. But a diminished commitment to the island's defense will, in turn, reduce Taipei's leverage in dealing with Beijing and could make the peaceful resolution of differences less likely in the future. In short, it is our view that a strong ROC defense is essential if future cross-Strait discussions are to be carried out with confidence, with mutual respect, and free of intimidation.

Economic and Technological Trends

Global technological trends can work against or in favor of Taiwan. On the one hand, PRC incorporation of advanced technology into weapon systems could enhance its ability to use force against Taiwan. On the other hand, technology could also be leveraged to increase the ROC's military power. Taiwan is home to a number of industries (in areas such as information technology, nanotechnology, and aerospace) in which it excels and that have considerable defense applications. With focused government investment, Taiwan has the potential to field innovative defense systems. Working with counterparts in the United States and elsewhere, Taiwan has opportunities to leverage technological strengths in, for example, microelectronics and materials science and to design, develop, and manufacture creative solutions to many of its most vexing military problems.

In the economic arena, Taiwan has benefited from globalization by successfully leveraging its technology expertise to become a leading high-tech economy. From a geopolitical perspective, however, China has seen greater success. As a source of cheap imports as well as a giant market for consumer goods, the PRC has attracted much more international attention; it is seen as an essential piece of the world economy. Taiwan has retained competitive advantages in key areas of applied technology and remains one of the most innovative societies in the world. Yet, it tends to view itself as dependent on access to mainland consumer and labor markets, not recognizing how much the

mainland depends on Taipei's investment and technological know-how. Taiwan also retains a significant role in the global trading system. Several of its industries are of paramount importance in the global supply chain of high-tech products, including components that are currently found in many U.S. and other nations' weapon systems. The more Taiwan's importance as a critical link in that supply chain is understood by the rest of the world, the greater the interest the rest of the world will have in discouraging the PRC's use of force.

The most immediate economic challenge facing Taiwan at the moment is, of course, the global economic recession. With a decline in GDP last year and predictions of a continuing recession, the pressure on the government to decrease spending, including defense spending, will only increase. Although the government has set the goal of spending 3 percent of its GDP on defense, and has now accomplished that goal, Taiwan must also ensure that real spending is in line with actual defense needs.⁶

Military Trends

Over the past two decades, the PLA has engaged in an extensive military modernization program. The primary purpose of this buildup is to deter Taiwan from declaring independence; to decrease confidence among the Taiwanese and states in the region that the island has any choice but to negotiate some form of settlement with the mainland; and, if necessary, to coerce Taiwan into an agreement whose terms will have been dictated by Beijing. For its part, Taiwan's military has made many improvements operationally, in command arrangements and in capabilities. The fact remains, however, that Taipei has not kept pace with the PLA's military buildup. As a result, the ROC has experienced a relative decline in military power. This year, for example, Taiwan has cut its defense budget for 2009 by 3.19 percent, while China expects to increase its 2009 military expenditures by 14.9 percent.⁷ It is imperative that this decline be reversed.

Complicating matters is the uncertainty in Taipei about the U.S. security commitment to Taiwan and

America's role as security guarantor in East Asia. In the absence of a bilateral treaty, there is much speculation in Taiwan about what the United States would do in the event of PRC action against Taiwan. In addition, there is a perceived and relative decline of U.S. power projection capabilities vis-à-vis the PLA. Since the 1995–96 Taiwan Strait crisis, when then-president Bill Clinton sent two carrier battle groups into the waters around Taiwan, the PRC has devoted significant resources to developing capabilities that make it more difficult for the United States to operate in a meaningful way in the Taiwan Strait and the East and South China Seas. Taiwan and other states in the region now question the ability of the United States to maintain its role in the future as the singularly dominant power in the Asia Pacific.

Nontraditional Security Challenges

Taiwan's defense establishment should prepare for a number of nontraditional security challenges as well. Natural disasters, epidemics, and terrorism also pose challenges to Taiwan's security. When it comes to the forces of nature, for example, Taiwan is one of the most dangerous places on earth. A 2005 World Bank report notes that the island is threatened by earthquakes, cyclones, and landslides.⁸ According to the report, 97 percent of Taiwan's land area, which is home to 96.6 percent of its population and 96.5 percent of its GDP, is threatened by multiple types of hazards.⁹ Similarly threatening to Taiwan are pandemics and epidemics. The ROC's position as a global shipping hub puts it at increased risk for disease outbreaks.¹⁰ What disasters and such emergencies have in common, of course, is a need for government to make prompt decisions and take quick action to prevent a further, often instant, deterioration of the situation. As such, warning and response to these types of events are not dissimilar to the kinds of capabilities needed in times of military crisis.

Additionally, like all modern governments, Taipei has difficulty fully controlling its borders: networks that smuggle illicit drugs and weapons and that traffic in women operate actively through Taiwan. This has

regional and global implications, especially if those or similar networks also traffic in dangerous weapons. Successful counterproliferation requires a general countertrafficking effort in which coastal areas, coastlines, airports, and other points of entry require constant surveillance. Such a capability, of course, would also be necessary to help secure Taiwan in the event of a military contingency, especially one involving an invasion.

Demographic trends in Taiwan and on the mainland also present challenges to ROC security. Taiwan's population, for example, grew by only 0.65 percent in 2007. Because of improved health care and a low fertility rate, Taiwan's population is rapidly aging. In 2007, people aged sixty-five and older made up 10.7 percent of the population; they are expected to account for approximately 40 percent of the population by 2051. In 2018, Taiwan's population is expected to register zero growth and, if current fertility rates hold, will begin to shrink thereafter.¹¹ In the coming years, however, the mainland will face even more severe demographic and ethnic challenges.¹² These could well pose problems to the PRC's internal stability, either forcing the PRC government to turn inward and focus on its domestic problems or leading it to precipitate a crisis with Taiwan as a means of increasing internal cohesion on the mainland.

The Military's Four Missions

In order to fulfill Taiwan's core strategic interests of maintaining its citizens' freedom and the government's freedom of action, the ROC military should have as its goals these key missions:

- *Deter* coercion.
- *Defend* against a spectrum of coercive scenarios.
- *Repel* an invasion and fight a land war.
- *Partner* with civil responders and with foreign militaries.

In carrying out these missions, Taiwan's military strategy should not simply be to plan for a symmetrical

response to a Chinese attack. If Taiwan tries to match the mainland plane for plane, ship for ship, missile for missile, and tank for tank, it would surely be defeated. Taipei simply does not have the resources to compete effectively with Beijing in this way. This does not mean that Taiwan must accept eventual defeat. Rather, it means that Taiwan should take advantage of asymmetries at the strategic, operational, and tactical levels in order to prepare a successful defense against coercion and aggression from the mainland.

In order to effectively deter, defend, and repel, Taiwan should partner with both civil responders and foreign militaries. The ability to cooperate effectively with civil responders is necessary for dealing effectively with local and regional emergencies, such as natural disasters and pandemics, and for mounting a prolonged resistance against occupation, as described below. And Taiwan should be able to partner with foreign militaries so that they can successfully fight alongside one another should foreign assistance be forthcoming. The ability of the ROC military to “plug and play” with intervening forces, moreover, could enhance deterrence against mainland aggression.

Military Objectives

1. Taiwan should be able to deter the use of force across a broad spectrum of coercive scenarios, in part by demonstrating a credible capacity to mount a long-term resistance. In other words, Taiwan needs to be able to deter an air campaign by showing it can shoot down PLA Air Force (PLAAF) fighters and bombers; severely complicate efforts to establish a maritime blockade; degrade substantially an amphibious attack; and, if necessary, demonstrate it can endure a protracted ground campaign on the island itself. In order to do so successfully, Taiwan’s military must not only aim to simply “stay in the game” with the PLA; it must make improbable the chances of the successful use of Chinese military coercion and, failing that, be prepared to raise the cost of the use of force to a level that the PRC might consider prohibitive. Taiwan should build a military that can respond effectively and efficiently to many different contingencies.
2. Taiwan should be able to mount an effective independent defense and should be able to continue to fight on its own in a drawn-out conflict. As noted earlier, there is much speculation about how the United States would react to a Chinese provocation in the Taiwan Strait. The ROC military certainly hopes that the United States would offer assistance, if not intervene more directly. Taipei cannot, however, count on this development. The defense establishment should, then, prepare to fight the PLA, from the opening shots through the conflict’s resolution, as if it were to defend itself entirely on its own.
3. Should the PRC attempt to physically occupy Taiwan, the ROC military should be prepared to repel an amphibious invasion; sustain an organized ground defense under central authority further inland; and, in a worst-case scenario, be prepared for decentralized resistance. While unlikely and perhaps even unthinkable, prudence dictates investment of resources to prepare for worst-case scenarios.
4. While it should be able to mount an independent defense, the ROC also should be prepared to operate in ad hoc coalitions that may form in the event of a conflict. True, Taiwan cannot count on foreign assistance. However, if that assistance is forthcoming, the ROC military should be prepared to fight effectively with foreign militaries to the greatest extent possible. Taiwan’s acquisition strategy should be oriented toward

achieving interoperability. Taiwan's military and civilian leadership should be able to communicate with potential partners, share intelligence rapidly and securely, and manage the battle space to avoid operational confusion among coalition militaries.

5. Taiwan's military should serve as a means of bolstering national unity and solidarity in the face of threats from the mainland. The defense of Taiwan should not be solely relegated to the professional military, but should also be seen as the responsibility of every citizen intent on maintaining his or her freedom. Even as Taiwan maintains a highly professional force, it should maintain a civil defense corps, which during peacetime can help assist with disaster relief functions but that can be mobilized quickly in war. Establishing a civilian defense strategy will help reinforce the idea that, despite partisan differences among

Taiwan's citizens, they are one society when it comes to maintaining their freedom of choice about the island's future.

6. The ROC's military should support regional security and be used to provide regional common goods. The benefits are twofold. First, cooperating with others in search and rescue, humanitarian relief, and counterproliferation operations, for example, will decrease Taiwan's political isolation and allow its military to operate in conjunction with other militaries in the region, enhancing its potential ability to operate with them in other situations. Additionally, Taiwan is a target of trafficking and proliferation networks. Multinational counterproliferation and countertrafficking activities, cooperative maritime policing efforts, and a capacity for expeditionary disaster relief, would contribute to regional stability and lessen the many security challenges facing Taiwan.

Reorienting Capabilities and Forces

Many of Taiwan's forces are, in fact, already oriented toward achieving the above objectives. It is important, however, that all forces are designed to carry out the missions described so that they can efficiently and effectively confront the many security challenges that Taiwan faces, and so that the mainland is unable to identify and exploit holes in Taiwan's defense preparations.

Moreover, these suggested capabilities may not, in and of themselves, be sufficient for the ROC to successfully carry out its defense strategy. Readiness and personnel management also are critical. The men and women of the ROC should be trained to a high level—each should be an expert in his or her specialty and should also receive training in other duties that the necessities of war might require him or her to perform. Regular exercises should be designed to stress the full range of coercive scenarios so that the military is prepared for as many contingencies as possible.

There are four domains in which the military must conduct missions: information, air, maritime, and ground. Each of these domains presents unique challenges. In each, the PLA has over the past two decades made significant advances that have benefited China at Taiwan's expense and have led to shifts in the ROC military's missions.

The Information Domain

The mainland has committed considerable resources to developing a robust cyber-warfare capability. The PLA now has dedicated cyber units, which are increasingly effective at using cyber attacks to degrade foreign networks and gain access to classified information.

Cyber-warfare capabilities aside, the PRC has a large and experienced propaganda machine. In the sixty years since the Chinese Communist Party (CCP) came to power, the government has honed its ability to communicate messages to its citizens at home and to the international community. And with an extensive network of censors, it is able to effectively control the information entering the country or being disseminated domestically. China's long experience and abundant resources give it a definite edge in the realm of information warfare.

Perhaps the most important capability for the ROC military in the information domain is to ensure information resilience. Following an attack from the mainland, the ROC military must be able to maintain situational awareness, means of internal and external communication, and effective command and control of its forces. In order to ensure situational awareness, Taiwan needs a survivable and persistent intelligence, surveillance, and reconnaissance network. Air, ground, and maritime sensors are all necessary.

The earthquake of September 21, 1999, and other natural disasters have made clear the importance of survivable communications. The 921 earthquake, as it has come to be called, caused extensive damage and loss of life and cut off communications across central Taiwan, which severely hampered relief efforts. Communication networks should be able to survive the most stressing of scenarios and be readily reconstituted upon failure. Not only should communications systems be resilient, but they must also be secure. Taiwan should be able to control the information that it is receiving and disseminating to its forces and people and to the international community. The integrity of information is paramount; compromised communications would put at risk

not only the effectiveness of Taiwan's forces, but also Taipei's efforts to shore up domestic morale and gain international support.

In the information domain, effective intelligence is also important. Military intelligence should be aimed at attaining a detailed knowledge of the PLA's order of battle so that the ROC military can effectively deploy its military resources. More broadly, efforts should be made at understanding, to the degree possible, the divisions, cleavages, fault lines, and internal political situations in the CCP and the PLA. Such knowledge is critical if Taiwan is to successfully wage information warfare against the mainland. In this connection, Taiwan's military should have an integrated strategy to convince mainland Chinese that the PLA is failing and will continue to fail, leading the Chinese people to possibly question the decisions made by the PRC leadership and the benefits associated with its irredentist claims.

Finally, in addition to maintaining information resilience, conducting cyber operations will be an important military mission within warfare's information domain. Taiwan should develop a credible strategic network warfare capability to threaten those networks most valued by the CCP and PLA, including censorship firewalls and filters, ballistic missile command and control, critical infrastructure, and media.

The Aerospace Domain

Decades ago, the ROC Air Force's (ROCAF) mission was to attain air superiority over the mainland in support of an invasion from Taiwan to unseat the Communist rule there. Today, of course, the ROCAF has a much different mission. China has more than quadrupled its fleet of fourth-generation fighters in the current decade; now at approximately four hundred aircraft, the fleet may become the Pacific's largest in the coming years. This, coupled with an effective air defense system on the mainland, has led to a radical shift in Taiwan's air mission.

Today, the ROC military's mission is to deny the adversary uncontested use of its airspace. Given the likely balance of air forces, however, the ROCAF

likely would be unable to sustain air supremacy over Taiwan for a prolonged period. That said, Taiwan need not simply cede the air to mainland forces. Rather, the ROC's military should be able to deny the PLAAF unimpeded access to the skies above Taiwan for an indefinite period of time. It is important for the ROC military to defend Taiwan's airspace in order to mitigate the effects of kinetic attacks on the ground.

For successful air and air defense operations, command and control will be crucial. The military leadership should be aware of incoming attacks and able to convey that information to the appropriate units. It should be able to quickly instruct mobile air defense units to move around the island and able to coordinate active defenses. Among other capabilities, sensors and access to civil and/or military satellites are necessary for effective command and control. Space, airborne, and ground-based sensors are required for gathering information throughout the battle space. Active sensors such as radar systems, however, are vulnerable due to prominent radio frequency signatures and to weapon systems such as antiradiation missiles and Harpy unmanned aerial vehicles (UAVs). Passive devices, such as infrared, passive coherent location, multilateration technology, or electro-optical systems, could reduce this vulnerability. In addition to emission control measures, deployment of mobile passive surveillance systems in an increasingly dense electromagnetic environment represents a significant technological opportunity. Placed across Taiwan and on the offshore islands, passive sensors could be used to monitor activity in the skies over the Strait and cue air defense systems and would have a low probability of detection by PLA antiradiation and other air defense suppression weapons.

The ROC military, of course, should also have the capacity to defend against attacks from the air. Interceptors are necessary for this effort. Surface-to-air missiles and aircraft, such as vertical/short take off and landing (V/STOL) fighters or "swarms" of UAVs carrying air-to-air missiles, could effectively serve this purpose. There is no question that Taiwan's air force faces a serious threat to its fixed-wing aircraft, but that does not make fixed-wing aircraft obsolete. Rather, the ROC should obtain upgrades to its aging

F-16, Mirage, and Indigenous Defense Fighter fleets at the same time as it executes strategies of dispersal and hardening. A review of requirements for ensuring sustained airbase operations is also warranted, including base recovery after attack, rapid runway repairs, hardening of critical base infrastructure, and options for air assets able to take off and land from short runways. Air defenses should also be survivable. There are a number of techniques that could be used to ensure air defense survivability: jammers could be used to degrade PLAAF targeting capabilities; camouflage, decoys, mobility, and dispersion would make defenses difficult to locate; and immobile sites should be hardened so that air and missile strikes do not destroy them.

In defending the skies over Taiwan, the military should not only defend against enemy aircraft, but also against PRC conventional ballistic and land attack cruise missiles. Taiwan should be able to undercut the coercive utility of limited ballistic and land attack cruise missile strikes with limited terminal and midcourse active missile defenses, passive defenses, hardening, and decoys.

The air defense mission could entail a more active component as well. The ROC military should not only be able to engage PLAAF aircraft over Taiwan, but it should also have the capacity to degrade the PLA's ability to conduct air operations throughout the range of the battle space, defined as the area from which the PRC launches offensive military operations against Taiwan to the airspace over Taiwan. An evaluation of the most effective and efficient means of achieving systemic effects on the PLA's ability to carry out an air campaign may be warranted, keeping in mind implications for escalation control.

The Maritime Domain

The PLA's military modernization has included a substantial naval buildup. The PLA Navy (PLAN) now has a fleet of over sixty submarines and more than seventy surface combatants, including twenty-eight destroyers armed with advanced anti-ship and anti-air weaponry. The PLAN is also gaining experience

operating as a "blue water" navy, as its ships deploy outside of China's adjacent seas. The ROC Navy's fleet is considerably smaller, and its ability to operate outside of Taiwan's waters constrained. As a result, its mission must be more limited in nature, although its mission is still vital to sustaining Taiwan's security.

The ROC's ability to withstand coercive use of force would be greatly enhanced if it could continue to import key commodities and weapons in the event of a PRC campaign to enforce a blockade. Should the PLA be able to conduct a successful blockade of the island, Taiwan's defense would be complicated and its ability to endure a coercive campaign would be much more difficult. As in the case of a dedicated PLA air campaign, Taiwan likely would be unable on its own to match the PLA's conventional naval fleet at sea. Nevertheless, even with a more limited fleet, Taiwan should build the capacity to keep open a series of routes for essential merchant and military shipping, especially to select ports on Taiwan's eastern coast. Taiwan should also maintain the ability to alter these routes in the course of a conflict and should be able to securely communicate information about their location to possible partners such as the United States and Japan. This necessity suggests Taiwan's enduring need for dedicated mine countermeasure forces, for a number of fixed or rapidly deployable sonar arrays, and for the ability to concentrate conventional antisubmarine warfare systems in specific areas for limited times.

As in the air, command and control would be crucial for defending against maritime threats. Requirements are similar to those described above. Space, airborne, surface, and subsurface sensors are necessary for situational awareness above, on, and below the seas. The ROC could consider a maritime domain awareness (MDA) capability, both as a domestic program and as a possible participant in a global network, for military and civilian purposes. As defined by the U.S. Navy,

MDA is the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or

environment of the [country]. MDA capability will be achieved by improving our ability to collect, process, exploit, fuse, analyze, display, and disseminate actionable information and intelligence to operational commanders, interagency partners, and non-government organizations.¹³

In short, MDA is a user-defined architecture for effective understanding of anything associated with the regional maritime domain. It pulls together information gained from air, sea, and underwater sources to create a comprehensive picture of the maritime environment. Along these lines, an integrated undersea surveillance system (IUSS) might be worth considering. An IUSS is a system of underwater arrays that not only could monitor subsurface and surface activity, but also, and perhaps even more important, could be useful for detection of oceanic earthquakes and for tsunami warnings. UAVs and other platforms and systems could also be useful for both military and nonmilitary purposes.

Interdiction capability is also necessary to defend against maritime coercive scenarios. Surface ships, such as destroyers or fast-attack missile boats, could be useful in preventing or breaking a blockade and would also provide valuable information for MDA. There are also valid operational and defensive requirements for submarines and smaller submersibles as part of a broader, integrated architecture for situational awareness, interdiction, and other missions.

Any Chinese invasion attempt that succeeded in gaining a toehold would require significant logistical support and follow-on forces. These supplies and personnel would be vulnerable to destruction as they transited the Taiwan Strait, whether by sea or even by air. Successful interdiction would require the ability to detect and attack convoys or individual replenishment craft. This reinforces Taiwan's need for survivable sensors, redundant headquarters facilities in which such information could be processed by appropriate staffs, and a command-and-control network to generate and relay orders. Weapons systems that could project requisite lethality into the waters and air around Taiwan include anti-ship cruise missiles launched from trucks ashore or from

fast patrol ships and submarines at sea and attack helicopters or V/STOL aircraft flying from hardened or dispersed locations armed with air-to-surface weapons such as Hellfire missiles. Mines (both shallow and surf-zone) will serve a particularly important role in maritime warfare, especially for close-in defense of the island. They can be laid in advance when war is imminent and can be delivered by a variety of means once conflict has begun. Major surface combat following an invasion may be limited. Rather, the majority of maritime operations will likely be covert and subsurface and should be aimed at stopping follow-on forces.

The Ground Domain

In the immediate aftermath of the Kuomintang's retreat to Taiwan in 1949, the ROC Army's official mission was to invade the mainland and force the CCP from power. In the years that followed, the likelihood of the ROC Army conducting that mission grew increasingly distant. Conversely, for decades following the start of CCP rule on the mainland, the PLA did not have an effective amphibious capacity, and the risk of the PLA invading Taiwan was minimal. In recent years, however, the PLA has developed an amphibious capability and has conducted a number of exercises featuring amphibious operations. As a result, the mainland's ability to invade Taiwan has become a more credible threat, and the ROC military, in turn, has become a more defense-oriented force.

Broadly speaking, the ROC Army's primary mission is to repel an invasion and fight a land war. In practical terms, the military has three separate missions in this regard. First, it should ensure the capability to repel an amphibious invasion. This mission requires coordination between the air, naval, and ground force assets in order to ensure the most efficient and effective use of limited resources. In the event that the PLA successfully establishes a bridgehead, Taiwan's forces should be able to fight and defeat the PLA's ground force. This requires the ROC to be able to defeat a largely conventional ground force invasion coming from the sea and air. Third, if

Taiwan is occupied, the ROC should be prepared to launch a sustained ground resistance.

As it transitions to an all-volunteer force, the ROC's defense establishment will need to attract, retain, develop, and motivate a high-quality, diverse, and sufficiently sized force to meet mission requirements. A premium is placed on a small, light infantry or motorized infantry ground force. Troops should be mobile and able to operate in small units. The force should be officer- and noncommissioned officer-heavy and capable of providing cadre leadership to reserves and militias. Taiwan also could evaluate the value of a large, well-trained, well-equipped reserve force. Reserve units could be prepared both to replace casualties from the regular army and to serve independently as militias.

The ROC's armed forces also should be trained to maintain civil order during a time of war, including the possibility of dealing with civilian panic. Ground forces should be ready both to fight the PLA and to provide for the population's safety and well-being. In order to respond to a variety of contingencies, and to ensure their own survival, military units should maintain a high level of mobility and be able to move quickly around the island. Troops will also need to maintain rear area security in times of crisis and have the capability to counter PLA special forces operations. The ROC military needs to be able to locate and track PLA special forces units in order to prevent covert destabilization of Taiwanese society.

A ground campaign on Taiwan is perhaps the least likely, worst-case scenario for PRC use of force. Yet, as part of a comprehensive strategy, the ROC should be prepared to mount a sustained ground resistance, even in the event that Taipei is occupied. Strategic endurance involving an effective, long-term, organized resistance could enhance deterrence by raising the costs of an amphibious invasion and forcible occupation of the island. Strategic endurance would involve not only the men and women of the ROC armed forces, but also leaders and citizens in each city and county on the island. Strategic endurance transcends conventional counterlanding operations and tactics. A capacity for sustained resistance could

require deliberate planning for a graceful degradation of centralized command and control and a shift toward decentralized yet coordinated operations at the local level.

A system of civilian militias is worth considering for strategic endurance. City- and county-level militias could be trained in small arms and guerrilla techniques. Civil militias should be able to operate independently and self-sufficiently; they should not depend on central command and control for orders or for supplies, which should be hidden in secret bunkers prior to any invasion. Militias would not be trained to defeat the PLA militarily (that is, to retake and hold their localities), but to prevent a successful occupation. Under such a concept, the entire island could be viewed as a battle space—a large and effective reserve force, civil defense, and dispersed supplies of critical stocks all could be considered.

In order to enact such a defense effectively, local command and control is imperative. Regular and reserve forces could benefit from a multilayered communications capability, which at the very least could continue to operate largely uninterrupted in smaller regions. Such capabilities could allow for independent, coordinated operations in small locales, especially important in the case of successful PLA attacks on central command authorities. The U.S. Army's Future Combat System (FCS) provides a model of how communications redundancy for Taiwan might best be achieved. According to the Army:

There are 5 layers in the FCS Network. . . . These layers provide diversity in waveform, frequency and environment to ensure there are multiple paths to transport the data. Each network is tailored to support the specific needs of the end users. Depending upon the communication configuration most users will be provided with multiple layers of access. Since the FCS communication environments are not forgiving, when a layer of communication becomes unavailable (due to increased range, obstructions, etc.) to a node the next

best layer will be selected (with impacts to the performance) to support the node's connectivity. Together, these layers provide seamless delivery of information.¹⁴

Such a capability could further improve the prospect of uninterrupted communications. Its applicability for military use is obvious, but the systems should include civilian use as well. Civil responders should have access to the communication system, and local government authorities throughout the island should be tied in to the

system. FCS-like communications would allow for continued military operations during war and for effective police, firefighter, and civil response to a range of national emergencies.

With the PLA lodged on the island, the defense mission could shift from physically pushing it out to causing as much attrition of PLA forces on the island as possible. The ROC armed forces and local units should make an occupation as painful as possible for the PRC's political leadership in order to force a withdrawal and termination of the conflict on terms favorable to the ROC.

Working with Others: Domestic and International

In a time of crisis, the ROC defense establishment should be able to partner with domestic civil responders and ad hoc coalitions alike. The ability to partner with domestic law enforcement officers, firefighters, and other emergency personnel is important in a number of scenarios. In the case of a natural disaster, civil responders and military units must be able to coordinate their search and rescue efforts. Compatible communications are especially important. The goal is to allow civil responders and the military to cooperate effectively in traditionally nonmilitary situations.

During a time of war, it could be equally important for the military and domestic civil responders to coordinate with one another. Coordination would be necessary to conduct search and rescue operations following missile attacks and also to manage defense efforts following mass mobilization.

Developing Partners

For political reasons, the ROC military is constrained in its ability to participate in international military exercises with the United States, Japan, Australia, and other potential partners, and defense relationships between Taiwan and these countries have certain artificial restrictions placed on them. This should not, however, prevent Taiwan from building a capacity for interoperability with its friends. Indeed, this capacity will be a key element in deterring the PRC from coercive or aggressive acts.

Taiwan could do a number of things to prepare to fight in ad hoc coalitions. First, it should adopt NATO readiness standards for fighting in modern coalition warfare. Especially important could be modern, interoperable command, control, communications, computers, intelligence, surveillance, and reconnaissance

(known as C4ISR) capabilities. To meet such standards, it will also be necessary for the military to engage in doctrine exchanges with potential partners and to provide English training to all officers and non-commissioned officers. In addition, Taiwan should boost the number of officers—particularly those at senior levels—receiving training and education in the United States and should aim to observe greater numbers of American military exercises.

In exchanges with counterparts in other nations, Taiwan's officers should establish staff procedures to “de-conflict” the battle space during time of war, so that, for example, Taiwan's air defenses do not fire on American fighters. Establishing the capacity to coordinate operations might be a bridge too far. The goal should be battle space management, in order to prevent Taiwanese and coalition forces from firing on each other.

Finally, in this regard, it is important for the ROC military not only to develop the capacity to cooperate with ad hoc coalitions during war, but also to develop the capacity for cooperation in humanitarian operations. This capability will serve to increase Taiwan's diplomatic standing in the region. Moreover, any cooperative experience in good citizenship activities can be put to use during time of war.

Besides developing the capacity to partner with others, Taiwan could also work to make itself an attractive partner. For example, Taiwan faces what is probably the most difficult land attack cruise missile threat of any country in the world. Should it have success in developing effective defenses against such a threat, other militaries could be eager to partner with and learn from the ROC. Similarly, as a highly innovative society with a strong high-tech industry, Taiwan should be an attractive country for cooperative R&D; it should develop strategies to promote such cooperation. Maritime domain awareness

(MDA) is another area that could draw partners to Taiwan. If Taiwan can achieve relatively complete and accurate MDA in the waters around Taiwan, other countries—notably Japan and the United States—could be eager to leverage Taiwan's unique position in the western Pacific for countertrafficking and environmental monitoring.

Lastly, Taiwanese defense officials should be candid in their discussions with potential allies—but especially the United States—about perceived vulnerabilities in force structures for keeping the peace or responding to a crisis in the Strait or the region.

Cross-Strait Risk Reduction Measures

While it prepares to deter and defend against possible PRC use of force, the ROC could see value in defense and security dialogue as a means to stabilize cross-Strait relations. Such talks might not deter use of force, but dialogue that takes place on an equal footing may produce creative means to reduce the risk of accidents and miscalculation that could escalate into armed conflict. Options, including many offered in a September 2008 Center for Strategic and International Studies report on cross-Strait security,¹⁵ could include high-level military and political exchanges, exercise notifications and observation, and direct means of communication between the two defense establishments. Dialogue could lead toward formal risk reduction measures, perhaps modeled after the U.S.-USSR Prevention of Dangerous Military Activities Agreement. In a similar vein, agreements intended to reduce the chances of incidents at sea or in the air could forestall escalation in those cases when they do happen. Arms control dialogue or agreements could focus on capabilities that potential combatants may view as particularly threatening or destabilizing. Finally, the ROC military and the PLA should be open to the possibility of conducting joint search and rescue exercises or humanitarian operations.

The activities just described would complement the Ma administration's current policy of improving relations with the mainland, while at the same time

reinforcing the perception that the ROC is to be treated as a stable and important regional actor.

Strengthening Taiwan from Within

The ROC could consider leveraging its competitive technological and industrial advantages in order to strengthen its indigenous defense and security industries. A strong domestic defense industry could create yet another path for Taiwan's economic growth. In particular, Taiwan has an opportunity to take advantage of two key trends in global defense industrial policy: civilianization and globalization. With the ROC's highly innovative workforce and access to worldwide markets, Taiwan's own defense industry could flourish. The industry would have a ready-made market in Taiwan, precisely because the ROC military is limited in its ability to purchase weapons systems abroad. It would also further diversify options for Taiwan's own exports. Innovative, high-tech enterprises in Taiwan could become qualified suppliers of components and subassemblies for the U.S. Department of Defense (DOD) and defense industry. They could, of course, fill other nations' defense needs as well. The resulting job creation in Taiwan could shore up support within Taiwan for defense spending.

This is not to say that the ROC should cease acquisition of defense articles and services through the U.S. Foreign Military Sales (FMS) program. The FMS program, however, is optimized for sales of articles currently in the DOD inventory. Alternative acquisition approaches may be more appropriate in the case of developmental programs. An indigenous defense industry may not only offer solutions for the ROC's own defense, but it also could serve as a platform for cooperative R&D projects with foreign industries as well. Other possibilities include hybrid FMS/Direct Commercial Sales options as well; this was done, for example, with the PERRY-class frigates (PFG-2), Indigenous Defense Fighters, TIEN-KUNG air defense systems, M48/60 main battle tanks, and S-70 utility helicopter programs.

In pursuing its own defense industry, the ROC may want to consider a number of issues. First, it could be

useful to assess where Taiwan's Industrial Cooperation Program (ICP) has achieved success and where there are shortcomings. ICP requires that foreign companies working under ROC government contracts cooperate with indigenous industries. The goals of the ICP are to support Taiwan's sustained economic growth through the introduction of new commercial technologies, to attract foreign investment, to broaden international marketing channels, and to encourage foreign businesses to establish R&D centers in Taiwan. Taiwan-based companies need to account for a certain percentage of the contracts' cost. The goal is for Taiwan's own businesses to gain expertise and experience from working jointly with foreign firms. Taiwan

should review the success of this program.¹⁶

Lastly, Taiwan should engage in a series of economic impact studies, which would serve as a strategic tool for Taiwan's long-term security. These studies should consider the economy-wide impact of domestic procurement by the military (including nondefense items and services), the economic impact of military bases on local communities, the impact on the overall economy of social welfare support for veterans, and the economic impact of R&D spending and other financial activities associated with defense. A better understanding of these issues will allow Taiwan to engage in intelligent planning of its future defense and economic policies.

Conclusion

In short, the ROC should show that it can fight on its own across a broad spectrum of conflict, while also preparing to operate in ad hoc coalitions. In order to accomplish these goals, it should build a force consistent with the Four Missions (deter, defend, repel, and partner) listed in chapter 1. Taiwan can deter the PRC by demonstrating its ability to deny the PLA its goals. It should be able to defend against all forms of coercion. The ROC should have the capacity to repel an invading force and, if that succeeds, a foreign occupation. And the ROC military must be able to partner with other arms of the domestic government and with foreign militaries.

Policies designed to engage with the mainland are important, yet they should not diminish the importance of the ROC armed forces. Even though

it has lessened its overt hostility toward Taiwan over the past year, the PRC has yet to renounce the use of force to pursue unification on its terms and has taken no visible steps to reduce the nature of the threat that it poses to the ROC or its people.

PRC leaders *must* know that the use of force would be met with enduring and costly resistance, regardless of which coercive scenario they pursue. The PLA must understand that it will be facing not only an active military force of nearly three hundred thousand and a reserve force of some 2.6 million, but also potentially the entire Taiwanese population—23 million strong. An ROC that can defend itself fully will both deter PRC adventurism and, as a result, open the door to more peaceful and productive relations across the Strait.

Notes

1. Mainland Affairs Council, “MAC Regular Press Briefing,” December 25, 2008, available at www.mac.gov.tw/english/english/macnews/enews/enews971225.htm (accessed July 2, 2009).

2. U.S. Department of Defense (DOD), *Military Power of the People’s Republic of China* (March 2009), available at www.defenselink.mil/pubs/pdfs/China_Military_Power_Report_2009.pdf (accessed May 29, 2009).

3. According to the Republic of China’s (ROC) 2009 Quadrennial Defense Review, “the purpose of national defense is to safeguard national security and maintain the livelihood of the people and sustainable development of the country. . . . The Armed Forces has a mission of defending the homeland and deterring wars to serve as a solid buttress for the Government’s position in the pursuit of cross-Strait peace, regional stability and national prosperity.”

4. DOD, *Military Power of the People’s Republic of China*.

5. This should not be taken as a political statement of decreasing American support. Rather, defense planners in Taiwan must make prudent assumptions in the absence of security guarantees.

6. Because of the recession and the consequent decline in Taiwan’s GDP, the Taiwan government has been able to maintain defense spending at 3 percent of GDP without an increase in actual resources devoted to the military.

7. “Lishǐ zhōngyāng zhèngfǔ shōu-zhī gāikuàng biāo,” ROC Directorate General of Budget, Accounting, and Statistics, available at www.dgbas.gov.tw/ct.asp?xItem=19973&CtNode=5033 (accessed May 29, 2009); and “China’s Defense Budget to Grow 14.9% in 2009,” Xinhua, April 3, 2009, available at http://news.xinhuanet.com/english/2009-03/04/content_10940787.htm (accessed May 29, 2009).

8. Maxx Dille, Robert S. Chen, Uwe Deichmann, Arthur L. Lerner-Lam, et al., *Natural Disaster Hotspots: A Global Risk Analysis* (Washington, DC: World Bank, 2005), available through www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK

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9. Ibid., 89.

10. This threat is heightened by Taiwan’s exclusion from the World Health Organization (WHO). As such, “Taiwan is unable to acquire immediately the necessary information needed for disease control and prevention,” nor is it able to participate “in the WHO mechanism for the allocation of vaccines and other disease control supplies,” which “has a strong negative impact on the health of people in Taiwan.” [ROC, Government Information Office, “Rebuttal to PRC Arguments against Inviting Taiwan to Participate in the WHO,” available at www.gio.gov.tw/taiwan-website/5-gp/join_who/2004/who16.htm (accessed February 25, 2009).]

11. ROC, Government Information Office, *The Republic of China Yearbook 2008*, ch. 2, available at www.gio.gov.tw/taiwan-website/5-gp/yearbook/ch2.html#PopulationTrends (accessed May 29, 2009).

12. For an account of the severe demographic problems facing China, see Nicholas Eberstadt, “Will China Continue to Rise?” in *The Rise of China: Essays on the Future Competition*, ed. Gary J. Schmitt (New York: Encounter Books, 2009), available through www.aei.org/book/100009.

13. Secretary of the Navy Donald C. Winter, “Maritime Domain Awareness in the Department of the Navy,” Department of the Navy, January 30, 2009, available at <http://doni.daps.dla.mil/Directives/03000%20Naval%20Operations%20and%20Readiness/03-00%20General%20Operations%20and%20Readiness%20Support/3052.1.pdf> (accessed February 27, 2009).

14. U.S. Army, Future Combat Systems, “FCS Network” available at www.fcs.army.mil/systems/network/index.html (accessed February 27, 2009).

15. Bonnie Glaser and Brad Glosserman, *Promoting Confidence Building across the Taiwan Strait: A Report of the CSIS International Security Program and Pacific Forum CSIS* (Washington, DC: Center for Strategic and International Studies, September 2008), available at www.csis.org/

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16. "Interview with Mr. Jack F. Tang, Director Industrial Cooperation Program, Ministry of Economic Affairs of (ROC) Taiwan," Epicos.com, October 22, 2008, available

at www.epicos.com/epicos/portal/media-type/html/user/anon/page/default.psm/js_panename/News+Information+Article+View;jsessionid=6469FC6B28902E6C2A818893A3C3951A.tomcat3?articleid=122963&showfull=false (accessed May 29, 2009).

About the Taiwan Policy Working Group

The Taiwan Policy Working Group first convened in January 2007 to discuss the current status of U.S.-Taiwan political, military, and economic relations. The group convened to forge a positive and productive bilateral agenda for Washington and Taipei. The group's first report, *Strengthening Freedom in Asia: A Twenty-First-Century Agenda for the U.S.-Taiwan Partnership*, coauthored by Dan Blumenthal and Randall Schriver and cosponsored by the American Enterprise Institute and Armitage International, was published in February 2008.

The Taiwan Policy Working Group, now cosponsored by AEI and the Project 2049 Institute, reconvened in December 2008 to craft a new defense strategy for Taiwan. This study group, composed of both regional and defense experts, held a series of meetings to consider Taiwan's security challenges, its military objectives and missions, and its force requirements. The group's findings are presented in this report.

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