
**RECOMMENDATIONS AND CONCLUDING
REMARKS¹**

While our work has naturally resulted in several recommendations of ways that Taiwan could enhance its self-defense, our stated purpose is to inform U.S. policy with regard to supporting the ROC's security needs, and it is on this topic that this chapter is focused.

U.S. SUPPORT IS VITAL TO TAIWAN'S SECURITY²

Ideally, of course, the conflict we have studied will never occur. Given, however, that it seems unlikely that Beijing will renounce its "right" to use force to achieve unification, a strong Taiwanese deterrent appears to be an important component of continued peace on the strait. As Taiwan's most reliable friend and in keeping with the

¹The reader will no doubt notice that this chapter makes recommendations based primarily on operational military grounds with only passing reference made to the difficult political context of U.S.-Taiwan security relations. This is in keeping with our purpose, which is to derive insights regarding Taiwan's security from an analysis of the military aspects of the confrontation between the PRC and the ROC. Our relative neglect of the diplomatic and political aspects of the situation should not be interpreted as a disparagement thereof. We recognize their centrality and importance. Our contribution to the debate simply lies elsewhere.

²We recognize that there are many constraints on U.S. support for Taiwanese self-defense. Most obvious are the political sensitivities that surround all aspects of U.S.-Taiwan relations. However, operational issues exist as well, with U.S. military leaders occasionally expressing reluctance to provide Taiwan with weapons that could inadvertently threaten U.S. forces should they be called on to come to Taiwan's defense in some future contingency. We are indebted to Michael Swaine for bringing this to our attention.

requirements of the 1979 Taiwan Relations Act, the United States will necessarily play a major role in helping the ROC maintain and enhance its defensive capabilities even as the PLA modernizes.

Keeping the peace on the Taiwan Strait is important for the United States. A war between China and Taiwan, regardless of the outcome, would be a disaster for both sides, for East Asia as a whole, and for the United States. At the same time, care should be taken that steps to increase Taiwan's defensive capability not be misread by Beijing; neither Taipei nor Washington has anything to gain by provoking the PRC to precipitate actions.

Should deterrence fail, Taiwan may in some circumstances find itself in a position where its survival depends on some degree of direct U.S. military intervention. We do not wish to prejudge whether or not such an action would, or should, be forthcoming. Our analysis, however, suggests five key insights regarding U.S. support for Taiwan—in both peace and war—that indicate ways of enhancing deterrence across the strait. By pursuing initiatives along these lines, Taiwan's defense posture vis à vis China could be significantly enhanced with, we believe, minimal risk of destabilizing the situation.

Small Increments of U.S. Assistance Could Turn the Tide

First, the amount of force needed to support Taiwan in the near term appears to fall considerably short of what is usually thought of in the Pentagon as that which is needed to prosecute an MTW. In the results we report here, we never committed more than a single wing of land-based fighters, two CVBGs, and a dozen or so heavy bombers to the campaign, a far smaller force than the 10 fighter wing equivalents and six CVBGs that engaged in Desert Storm.³ The sheer compactness of the combat zone around Taiwan limits the number of forces that can effectively be employed, and we found that even a very small U.S. contribution—one or two carriers, a couple of squadrons of F-15s, and two SSNs—could frequently swing the outcome in Taiwan's favor. The balance between the mainland and Taiwan is fairly fine and should remain so for the next five years or so; *U.S. thinking about a*

³Never mind the two Army corps and two Marine divisions that fought the ground war in the desert.

*PRC-ROC scenario should focus on rapidly bringing limited force to bear rather than a full-up mobilization of the vast American military machine.*⁴

Supporting Taiwanese Modernization: The Israel Model

For many years, the United States has been the primary external supporter of Israel, an actor that, like Taiwan, has lived under constant threat of attack by much larger neighbors. In terms of arms sales and military assistance, U.S. policy has revolved around the idea that Israel should maintain a qualitative superiority of sufficient degree to offset its numerical inferiority in a defensive campaign. We suggest that a similar philosophy could guide U.S. assistance to Taiwan. How best to implement such a strategy is an important question.

Taiwan currently fields a number of first-rate weapons platforms. The F-16C and Mirage 2000, for example, are at least the equals of any fighter in the PLAAF inventory, and the ROCN's modern frigates are likewise a match for the mainland's best surface warships. Helping Taiwan exploit these systems to their fullest might be the best way for the United States to enhance the island's defensive capabilities.

There appear to be two primary paths to such improvement. The first would involve U.S. assistance in acquiring or developing armaments, sensors, and other equipment that will help maximize the capabilities of Taiwan's platforms. We have already stressed, for example, the criticality of "AMRAAM parity" between the PRC and the ROC. Following the recent U.S. decision to sell but not deliver AMRAAMs to Taiwan, the necessary political and technical groundwork should be laid to permit the ROCAF to quickly assimilate the weapon if and when the PLAAF begins to field the AA-12. The United States could also ensure that the Taiwanese military has access to advanced aerial surveillance radars as well as modern air defense C² systems. Upgrades to the ROCAF's E-2T fleet of radar aircraft to make them more capable and more reliable could be especially valuable, because these platforms may be more survivable than fixed land-based radar sites. Finally, the United States could help the ROCAF protect its air

⁴If the initial defense of Taiwan should fail, a much larger U.S. commitment would almost certainly be needed if the decision were made to "liberate" the island. Such a scenario is far outside the ken of this study.

bases against the kinds of attacks that the PRC could mount against them. As we noted above, sustaining air operations under attack—or recovering rapidly after one—would be vital to the ROCAF in any clash with China. The United States could assist by providing equipment, material, and know-how.

At sea, Taiwan could benefit first and foremost from enhancements in ASW. Advanced towed-array sonars, signal processing equipment, modern ASW aircraft, and improved weaponry could all prove valuable in helping the ROCN deal with the PLAN submarine threat.⁵

The second way the United States can help Taiwan get the most out of its inventory of advanced weapons is to assist in efforts to improve the quality of the island's military personnel. This could include assisting the ROCAF in acquiring a larger number of advanced flight simulators, for example, or helping the Taiwanese develop improved training programs. Such assistance need not be limited to flying personnel, either; improving the competence of ground crews and maintenance technicians will help assure that the ROCAF can maintain the high sortie rate needed to combat China's far superior numbers.

Direct training contacts between U.S. and Taiwanese military personnel always carry the risk of raising Beijing's ire. Nonetheless, we believe that some expansion of these activities would have great value. Allowing even a few ROCAF pilots to participate in advanced USAF training events, such as Red Flag, or attend the Fighter

⁵Taiwan has expressed great interest in acquiring some number of AEGIS-equipped warships similar to the U.S. Navy's *Arleigh Burke* class of destroyers, and the enhanced air defense capabilities of these ships would certainly be valuable. However, these ships, if imprudently employed, would be very lucrative targets for Chinese submarines; their ASW capabilities, after all, were intended to be but one component of the overall defenses of a U.S. carrier battle group. As an alternative, we suggest that the United States and Taiwan focus on incrementally improving the ROCN's existing ship-based air defenses. Actions worth considering could include fielding better sensors, improving the networking of land- and sea-based systems, and deploying more-capable missiles. The launchers on Taiwan's *Cheng Kung* frigates, for example, can, with modest modifications, accommodate the longer-range and more-capable Standard SM-2 round as well as the SM-1 variant with which the vessels are currently equipped. As the SM-1 is out of production, switching to the SM-2—which may involve refitting fire-control radars as well—might become necessary if the ROCN is not to lose its extended-range AAW capabilities. In the mid- to long-term, the need to replace Taiwan's aging destroyers may require the acquisition of warships in the *Burke* class.

Weapons School, could in the mid- to long-term have a major impact on the ROCAF as the experience and knowledge they gained percolates through the force. Even less visible, and hence perhaps more palatable, increases in interaction—such as permitting more Taiwanese officers to attend such U.S. professional military schools as the Air War College—could pay off.

Air Defense C²

While sales of platforms and major weapons systems grab the headlines and generate the controversy, Taiwan has critical needs in other areas. The air defense C² network, which has been upgraded substantially in the past decade, continues to suffer from limitations in intelligence fusion and data transmission and relies on vulnerable fixed radars for much of its situational awareness. The E-2T radar aircraft offer a mobile, potentially survivable adjunct to ground sites but lack the kinds of data links needed to exploit their capabilities fully in an integrated fashion. These shortcomings should be an important priority for rectification. The U.S. military and the American private sector can offer Taiwan the world's finest systems engineering and integration solutions in terms of both hardware and software. The U.S. side can encourage Taiwan to make the investments needed to ensure that the ROC's C² system is fully modernized and robust in the face of the kinds of threats it would likely face in a conflict with China.

Information and Intelligence Sharing

The United States is obviously and properly sensitive and selective in choosing how and when to share what kinds of information and intelligence with its friends and allies. At the same time, however, there would appear to be enormous leverage to be gained by helping Taiwan's government and military leadership maintain an accurate picture of the strategic and tactical situation day to day and, especially, during a crisis.

During peacetime, Taiwan requires an up-to-date and unprejudiced perspective on China's political and military planning, intentions, and capabilities. Its own intelligence service is naturally the primary source for the ROC's insights into Beijing's likely actions and the state

of the PLA, but cooperation with the United States in this field could improve the amount and quality of information available to decisionmakers in both Taipei and Washington. A shared picture of the evolving threat would also likely make it easier for the two sides to reach agreement on arms sales and other modes of U.S.-Taiwan defense cooperation.

In a crisis, U.S. intelligence support could be critical to Taiwan's security. U.S. collection systems could provide early warning of force movements, such as the marshaling of airborne troops and transports, deep inside China that could presage a move against Taiwan. Conversely, a failure to detect such necessary preparatory actions could help defuse a crisis should Beijing attempt to intimidate Taiwan by bluffing with highly visible maneuvers. In any event, political and military leaders on both sides of the U.S.-Taiwan relationship stand to gain a clearer common image of any emerging situation if the two sides routinely and regularly share intelligence and information.

Interoperability: The Critical Link

Here we come to a crucial task: ensuring that U.S. and Taiwanese forces can fight side by side, should the need ever arise, without introducing crippling levels of friction into either's operations. This area is of very serious concern.

In this analysis, we assumed that the United States and Taiwan had achieved only a minimum level of interoperability—that the airspace over Taiwan and the strait could be divided and U.S. and ROC forces segregated into their own operational sectors. We further assumed that the U.S. Navy and USAF were unable to directly link their surveillance and targeting systems, such as AWACS and AEGIS, to their Taiwanese counterparts and vice versa. Essentially, we tried to keep the ROC military and the U.S. military out of each other's way while each fought more-or-less independent campaigns against the Chinese.

This may seem to be a pessimistic picture, but it may in fact overstate the degree of cooperation that would be possible if war were to break out today. Last year's operations over Kosovo and Serbia demonstrated the very real and binding limitations of interoperability that exist even within the 50-year-old NATO alliance. Despite decades of

the closest possible interaction and joint training and despite volumes of standard operating procedures and standing agreements, alliance air operations were impeded by technical incompatibilities, procedural differences, and even language difficulties. Absent this corpus of common experience and planning, how effectively could the U.S. military actually expect to fight with the Taiwanese?

There are both hardware and software aspects to this problem. Many Taiwanese weapons—even those provided by the United States—lack specific capabilities, such as data links and IFF systems, that would enable them to “plug and play” with comparable U.S. platforms. Even when physical equipment is identical, computer codes have sometimes been embargoed, resulting in incompatibilities. Some such modifications are justified: Taiwanese F-16s certainly do not require the wiring needed to mount and deliver nuclear bombs, for instance. However, decisions regarding what to leave in and what to leave out could take into account the possibility that the F-16s (or radars or SAMs or shipboard combat-control systems) in question could someday be employed in conjunction with U.S. forces. Prudence seems to pull in both directions on this issue, but we believe that enhancing the ease of cooperation between Taiwanese and U.S. forces is in the interests of both sides.⁶

Small and discreet steps could be valuable. Developing the basic framework for joint airspace management, for example, need not involve high-profile, high-level visits. Upgrading software to improve compatibility could be done almost invisibly. Indeed, to the extent that operational capabilities are coming to reside less and less in the basic platforms and instead stem from the bits and bytes flowing through “black boxes,” it may become less politically painful to engage in this sort of cooperation.

The human side of the equation should not be neglected, either. Although it seems unlikely that the United States and Taiwan will be engaging in large-scale bilateral exercises over the next five years,

⁶Beijing would find visible steps in this direction extremely annoying, which is regrettable and clearly a factor to be considered in determining precisely what to do and how far to go. However, it is also testimony to the potential deterrent value of improving interoperability: if it didn't make a difference, the Chinese likely would make much less of a fuss.

contacts between U.S. and Taiwanese planners and operators could increase. Working-level discussions between the men and women who would actually be put on the spot in any conflict would be invaluable in paving the way to smoother interactions in the event.

This is obviously an extremely sensitive area and one where effects are prodigiously difficult to quantify. Nevertheless, based on our discussions with both the U.S. and Taiwanese militaries, we are convinced it is a problem that needs to be addressed, and even small steps could make a significant difference.

CHINA AS A SANCTUARY?

If an all-out war between Taiwan and China should erupt, the ROC government will face a dilemma regarding whether or not to strike targets on the Chinese mainland. Taiwan has shown at least some interest in developing its own surface-to-surface missiles; however, no confirmation exists that it has deployed any such systems (Daly, 1999, pp. 24–29). We do not wish to speculate whether or not Taipei would choose to take offensive action or to argue one way or the other about its advisability.

It is important to note, though, that the United States would likely face the same conundrum if it were to become actively involved in defending Taiwan. As demonstrated in Iraq and again in the Balkans, contemporary U.S. warfighting strategy typically includes large-scale strikes against command, control, and communications facilities, air defenses, air bases, and an array of other targets in the adversary's territory. Whether or not the United States would initiate such a campaign against a vast and nuclear-armed opponent—and, if so, what sorts of limitations would be imposed on targeting and collateral damage—is a deeply vexing question.

The need to suppress the PLA's long-range air defenses could provide the most compelling rationale for at least limited attacks on military targets in China. Beijing currently deploys a small number—a half-dozen or so batteries—of Russian S-300PMU1/SA-10D SAMs, whose 48N6 missiles have a maximum range estimated at 150 kilometers. Further developments of this family of missiles have been reported with ranges extending as far as 400 kilometers; China itself is developing its own spinoff of the basic SA-10, the HQ-9. Should the

PLA locate several of these systems close to the Chinese coast, they could cover much of the strait at medium altitudes and even reach over Taiwan itself at high altitudes. Low-level tactics would reduce the S-300's engagement range but would also restrict the tactical and operational flexibility of Taiwanese and U.S. aircraft. Neutralizing these long-range "double-digit" SAMs is widely regarded as a difficult tactical problem. Adding in the risks associated with attacking even strictly military targets within China compounds the complexity.

We have no answer on this; we suggest, however, that U.S. planners think through in advance the implications for U.S. operations of either striking or not striking military targets in China. The stakes are too high, both on the battlefield and at the strategic level, to leave considering the question to the last minute.

LOOKING BEYOND 2005

This study was exclusively focused on the near term and included only capabilities that could conceivably be fielded by 2005.⁷ Naturally, however, the analysis leads to some points about possible evolutions beyond this time frame and their potential implications.

A number of developments on the Chinese side emerge from our assessment as appearing particularly troublesome. These include the following:

- Advances in information warfare capabilities that enable China to more rapidly and completely shut down Taiwan's C² networks.
- The deployment of hundreds or thousands of conventionally armed and highly accurate ballistic and cruise missiles that could greatly endanger the operability of Taiwan's air bases.
- Fielding of a standoff munition similar to the U.S. JSOW that would enable the PLAAF to deliver ordnance accurately onto many Taiwanese targets from within or just outside the coverage umbrella provided by China's long-range SAMs.

⁷Although, as noted earlier, we may have given the Chinese in particular the benefit of several doubts in our efforts to be conservative.

- Large numbers of GPS-guided free-fall munitions (akin to the U.S. JDAM) that might turn older aircraft with poorly trained pilots into reasonably effective attack platforms.

Countering such developments would present new challenges to the Taiwanese. Looking toward this uncertain future, we recommend that the United States work to help Taipei improve its ability to defend key military and commercial information systems from attack. Also, with the Chinese likely to exploit GPS and Russian GLONASS navigation satellites in the guidance modes for many future weapons, Taiwan may want to acquire the ability to effectively jam these signals over both its own territory and the strait. Both the ROC military and the United States may therefore want to invest time in planning both how best to operate in such a “GPS-out” environment and fielding highly jam-resistant equipment to sustain GPS use in a very difficult electronic environment.

FINAL THOUGHTS

A war between Taiwan and China is an unpleasant and tragic prospect, rife with the potential for escalation and guaranteed to result in massive destruction both in the immediate military sense and in longer-term damage to the political evolution of East Asia and the Pacific Rim.

This study suggests that Beijing would be imprudent to resort to massive air and missile attacks or an invasion of Taiwan as a means of compelling unification. Our results show an incredibly costly war that the PLA should have serious doubts about winning. The odds against the mainland appear to increase still further if the United States gets actively involved—even minimally—in Taiwan’s defense.

Maintaining peace on the Taiwan Strait is in the interests of the Chinese people on both sides of the narrow waters and of the American people, too. To the extent that China continues to threaten military action against Taiwan, deterrence will remain an important component of any strategy aimed at avoiding conflict. Sustaining and enhancing that deterrent—which boils down to sustaining and enhancing Taiwan’s defensive capabilities—is a crucial goal of U.S.-ROC security cooperation.

That this objective is purely defensive should be emphasized publicly and be clearly visible in the types of weapons sold, technology transferred, and assistance lent. While the dichotomy between “offensive” and “defensive” stances can be easily overdrawn, initiatives that clearly respond to the developing Chinese threat—such as helping Taiwan improve its air base operability, increasing the survivability of its C² systems, or providing AMRAAM when the PLAAF begins deploying AA-12s—can be strongly justified and are good candidates for near-term implementation. To do little or nothing in the face of growing Chinese capabilities would diminish the deterrent posture that is critical to keeping the waters between Taiwan and the mainland from becoming a “dire strait” indeed.