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Military Power of the People's Republic of China 2006



Office of the Secretary of Defense

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Military Power of the People's Republic of China

A Report to Congress
Pursuant to the National Defense Authorization Act
Fiscal Year 2000

Section 1202, "Annual Report on Military Power of the People's Republic of China," of the National Defense Authorization Act for Fiscal Year 2000, Public Law 106-65, provides that the Secretary of Defense shall submit a report "on the current and future military strategy of the People's Republic of China. The report shall address the current and probable future course of military-technological development on the People's Liberation Army and the tenets and probable development of Chinese grand strategy, security strategy, and military strategy, and of the military organizations and operational concepts, through the next 20 years."

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Executive Summary

China's rapid rise as a regional political and economic power with global aspirations is an important element of today's strategic environment – one that has significant implications for the region and the world. The United States welcomes the rise of a peaceful and prosperous China. U.S. policy encourages China to participate as a responsible international stakeholder by taking on a greater share of responsibility for the health and success of the global system from which China has derived great benefit.

China's leaders face some important choices as its power and influence grow. These choices span a range of issues: challenges of China's economic transition and political reform, rising nationalism, internal unrest, proliferation of dangerous technologies, adoption of international norms, and China's expanding military power.

The People's Liberation Army (PLA) is in the process of long-term transformation from a mass army designed for protracted wars of attrition on its territory to a more modern force capable of fighting short duration, high intensity conflicts against high-tech adversaries. Today, China's ability to sustain military power at a distance is limited. However, as the 2006 Quadrennial Defense Review Report notes, "China has the greatest potential to compete militarily with the United States and field disruptive military technologies that could over time offset traditional U.S. military advantages."

In the near term, China's military build-up appears focused on preparing for Taiwan Strait contingencies, including the possibility of U.S. intervention. However, analysis of China's military acquisitions suggest it is also generating capabilities that could apply to other regional contingencies, such as conflicts over resources or territory.

The PLA's transformation features new doctrine for modern warfare, reform of military institutions and personnel systems, improved exercise and training standards, and the acquisition of advanced foreign (especially Russian) and domestic weapon systems. Several aspects of China's military development have surprised U.S. analysts, including the pace and scope of its strategic forces modernization. China's military expansion is already such as to alter regional military balances. Long-term trends in China's strategic nuclear forces modernization, land- and sea-based access denial capabilities, and emerging precision-strike weapons have the potential to pose credible threats to modern militaries operating in the region.

China's leaders have yet to adequately explain the purposes or desired end-states of their military expansion. Estimates place Chinese defense expenditure at two to three times officially disclosed figures. The outside world has little knowledge of Chinese motivations and decision-making or of key capabilities supporting PLA modernization.

This lack of transparency prompts others to ask, as Secretary of Defense Rumsfeld did in June 2005: Why this growing investment? Why these continuing large and expanding arms purchases? Why these continuing robust deployments? Absent greater transparency, international reactions to China's military growth will understandably hedge against these unknowns.

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Chapter One
Key Developments

Several significant developments in China's national strategies and military capabilities over the past year relate to the questions posed by Congress in Section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65). These developments include:

Grand Strategy, Security Strategy, and Military Strategy

- Beijing released a White Paper entitled China's Peaceful Development Road in December 2005 to allay growing regional concerns over China's rise. China's military expansion – which provides an important context for understanding China's development – was not addressed.

- China continued its strategy of building "comprehensive national power" with a declared emphasis on economic development. China's 11th Five-Year Plan (2006-2010), ratified during the March 2006 session of the National People's Congress, calls for a 20 percent reduction in per capita energy consumption by 2010, a doubling of China's 2000 Gross Domestic Product (GDP) by 2010, and an overall GDP of $4 trillion by 2020. The plan stresses coordinated, sustainable development and greater investment and urbanization in the rural interior to address widening income disparities and resultant social unrest.

- Domestic protests, mainly directed at local policies and officials, have increased and, in some cases, become violent in recent years. The protests reflect popular dissatisfaction with official behavior related to property rights and forced relocations, labor rights, pensions, and corruption. They pose increased challenges to China's internal security forces.

- China's dependence on imported energy and raw materials continues to grow. In 2004 China maintained its position as the world's second largest consumer and third largest importer of oil. Securing adequate supplies of resources and materials has become a major driver of Chinese foreign policy. Beijing has pursued stronger relations with Angola, Central Asia, Indonesia, states in the Middle East (including Iran), Russia, Sudan, Venezuela, and Zimbabwe to secure long-term resource supply agreements. Some of these countries are also recipients of Chinese military technology, raising questions over whether or not arms sales are used to facilitate access. China has also strengthened ties to countries that are located astride key maritime transit routes (e.g., the Straits of Malacca). PRC strategists have discussed the vulnerability of China's access to international waterways. Evidence suggests that China is investing in maritime surface and sub-surface weapons systems that could serve as the basis for a force capable of power projection to secure vital sea lines of communication and/or key geostrategic terrain.

- In July 2005, Major General Zhu Chenghu, from the People's Liberation Army (PLA) National Defense University, stated to the press: "[In a cross-Strait confrontation] if the Americans draw their missiles and position-guided ammunition [sic] on the target zone on China's territory, I think we will have to respond with nuclear weapons." This is not the first time Zhu, or others, have

threatened the United States with nuclear strikes in the context of conflict over Taiwan.

  - Following international criticism, the Chinese government formally disavowed General Zhu's remarks, stating that they reflected a personal opinion, and that China continues to adhere to a doctrine of "no first use" of nuclear weapons. This assurance was also conveyed to Secretary of Defense Rumsfeld during his October 2005 visit to China. Zhu's remarks, however, show that the circle of military and civilian national security professionals discussing the value of China's current "no first use" nuclear policy is broader than previously assessed.

- China continues a systematic effort to obtain dual-use technologies through trade, commercial transactions, and joint ventures, particularly in the areas of software and integrated circuits industries that are vital for information-based, network-centric warfare. This trend, noted as a key finding in the U.S.-China Economic and Security Review Commission's 2005 Annual Report, is evidenced by increasing high-technology foreign investment and joint ventures in China and the concentration of export licenses destined for China in computer, electronics, semiconductor, telecommunications and information security technology.

Trends in China's Strategy in the Asia-Pacific and Other Regions of the World

In the past year, China continued its efforts to build influence in the Asia-Pacific region and beyond:

- China has publicly called for a "nuclear-free Korean Peninsula," and hosts the Six-Party Talks aimed at resolving the North Korean nuclear issue. China has unique potential, due to historical ties and geographical proximity, to convince North Korea to give up its nuclear ambitions.

- Resource concerns played a role in increased Sino-Japanese tensions in the East China Sea, which flared last fall as PLA Navy vessels trained their weapons on Japanese Self Defense Forces aircraft monitoring Chinese drilling and survey activity in the disputed area.

- In August 2005, China and Russia held a combined forces exercise, "PEACE MISSION 2005." The scenario was a UN-sanctioned intervention to separate combatants and restore order following ethnic disagreements in an imaginary country. Participants conducted off-shore blockades, paradrops, airfield seizures, and amphibious landings – all components of a Taiwan invasion plan. Russian forces included strategic bombers, advanced early warning, transport, refueling, and fighter aircraft along with modern naval vessels, suggesting the exercise also served as a showcase for Russian equipment to prospective Chinese buyers.

- In July 2005, China and Russia secured a joint statement from the Shanghai Cooperation Organization's (SCO) Astana Summit calling for a date for the withdrawal of U.S. forces prosecuting the War on Terrorism in Central Asia, where Beijing hopes to reduce U.S. influence and gain greater foothold.

- China remains a committed participant in the Asia-Pacific Economic Cooperation (APEC) and the Association of Southeast Asian Nations (ASEAN) Regional Forum. These two institutions, in which the Unites States participates, form the basis for East-Asian and Pacific regional architecture. Some of China's diplomacy was also geared to promoting regional institutions that would exclude the United States, however, such as the December 2005 East Asia Summit and the ASEAN+3 dialogue.

- China made progress on resolving its border dispute with India, and the two countries affirmed their strategic partnership in April 2005. China seeks improved ties with New Delhi to both stabilize its periphery and balance improvements in U.S.-India relations. Beijing is encouraging New Delhi and Islamabad to reduce tensions while preserving China's longstanding strategic partnership with Pakistan.

- China's foreign policy is now global. It engages in key issues in almost all international security and economic institutions, including the UN and the WTO. Its decision to deploy peacekeepers to several African countries and to Haiti and its growing economic ties in Latin America reflect this new global role. Of more concern are China's economic and political links with states such as Iran, Sudan, Burma, Zimbabwe, Cuba, and Venezuela, which are objects of international efforts to influence in the direction of nuclear non-proliferation, political reform, stability, and/or human rights. China also continues to use its growing leverage to restrict Taiwan's international roles and convince Taiwan's remaining 25 diplomatic partners to shift diplomatic recognition to Beijing.

The Security Situation in the Taiwan Strait

- There were no armed incidents in the vicinity of the Taiwan Strait in 2005. Trends in the cross-Strait relationship in 2005 appeared to ease Beijing's concerns over Taiwan President Chen Shui-bian's 2004 re-election and stated plans to amend Taiwan's constitution by the end of his term in 2008. In early 2006, Beijing maintained a posture of restraint following President Chen's decision to suspend the National Unification Council and National Unification Guidelines. However, China's expansion of missile and other military forces opposite Taiwan has continued unabated, with the balance of forces shifting in the mainland's favor.

- PLA amphibious exercises and training in 2005 focused on Taiwan. In September 2005 the PLA held one large-scale, multi-service exercise that dealt explicitly with a Taiwan invasion. China has conducted 11 amphibious exercises featuring a Taiwan scenario in the past 6 years.

Size, Location, and Capabilities of Chinese Forces Facing Taiwan

China is pursuing long-term, comprehensive military modernization to improve its capabilities for power projection and access denial. Consistent with a near-term focus on preparing for Taiwan Strait contingencies, China deploys its most advanced systems to the military regions directly opposite Taiwan.

Ballistic and Cruise Missiles. The tempo of ballistic missile testing increased in 2005, indicating the priority China places on strengthening this force. China is developing qualitative upgrades to certain forces as well as methods specifically designed to counter ballistic missile defenses.

- By late 2005, China had deployed some 710-790 mobile CSS-6 and CSS-7 short-range ballistic missiles (SRBMs) to garrisons opposite Taiwan. SRBM deployment continues to expand at an average rate of about 100 missiles per year. Newer versions feature improved range and accuracy.

- China is modernizing its longer-range ballistic missile force by qualitatively upgrading and/or replacing older systems with newer, more survivable ones. China is introducing a new road-mobile, solid-propellant, intercontinental-range ballistic missile (ICBM), the DF-31 and the extended-range DF-31A, which can target most

of the world, including the continental United States. These systems are supplemented by a new submarine-launched ballistic missile (SLBM), the JL-2, for deployment aboard the JIN-class (Type 094) ballistic missile submarine.

- China is exploring the use of ballistic and cruise missiles for anti-access missions, including counter-carrier and land attacks, and is working on reconnaissance and communication systems to improve missile command, control, and targeting.

Air Power. China has more than 700 combat aircraft based within unrefueled operational range of Taiwan and the airfield capacity to expand the number of aircraft within this range. Although many aircraft are obsolescent or upgrades of older aircraft, new aircraft are a growing percentage of the inventory. China continues to acquire advanced fighter aircraft from Russia, including the Su-30MKK multi-role and Su-30MK2 maritime strike aircraft. China is producing its own version of the Su-27SK, also known as the F-11, under a co-production license with Russia. Last year, Beijing renegotiated this agreement to produce the multi-role Su-27SMK for the remainder of the production run.

- According to the Defense Intelligence Agency (DIA), there were indications last year that China plans to organize a combat air wing for a future aircraft carrier, possibly based on the Russian Su-33/FLANKER D, a carrier-capable variant of the Su-27/FLANKER. Russia currently uses the Su-33 aboard Kuznetzov-class aircraft carriers.

- China's indigenous fourth-generation fighter, the F-10, completed development in 2004. DIA estimates production of 1,200 aircraft over the life of the program. Reported to be similar in weight and performance to the Eurofighter Typhoon or Dassault Rafale, newer variants of the F-10, the F-10A, and Super-10, now under development, feature improved weapons, engines, and radars.

- Improvements to the FB-7 fighter program will enable this older aircraft to perform nighttime maritime strike operations and to use improved weapons such as the Russian Kh-31P anti-radiation cruise missile and KAB-500 laser-guided munition.

- China is developing special mission aircraft, including the KJ-2000 airborne warning and control (AWACS) aircraft, based on the Russian IL-76 transport platform. China is also modifying the Y-8/CUB transport into a variety of platforms, including Airborne Battlefield Command, AWACS, and intelligence collection.

Naval Power. China's naval forces now include 75 major surface combatants, some 55 attack submarines, about 50 medium and heavy amphibious lift vessels (an increase of over 14 percent from last year), and approximately 45 coastal missile patrol craft.

- China has received its first of two Russian-made SOVREMENNYY II guided missile destroyers (DDGs), with the second expected by the end of 2006 or early 2007. These DDGs are fitted with advanced anti-ship cruise missiles (ASCMs) and sophisticated, wide-area air defense systems, which represent a qualitative improvement over China's earlier SOVREMENNYY-class DDGs purchased from Russia.

- China's SONG-class diesel electric submarine is in serial production. The SONG is designed to carry the YJ-82, an encapsulated ASCM capable of submerged launch. In 2004, China launched a new diesel submarine, the YUAN-class. China's next-generation nuclear attack submarine, the SHANG-class (Type 093) SSN, is now entering the fleet.

- China is acquiring eight additional KILO-class diesel electric submarines from Russia to augment the four previously purchased units. The new KILOs are equipped with the supersonic SS-N-27B ASCM, and wire-guided and wake-homing torpedoes.

- In 2005, the PLA Navy (PLAN) launched its newest ship, the LUZHOU-class (Type 051C) DDG. Designed for anti-air warfare, it is equipped with the Russian SA-N-20 SAM system, controlled by the TOMBSTONE phased-array radar. The SA-N-20 more than doubles the range of current PLAN systems.

- The LUZHOU-class DDG complements ongoing developments of the LUYANG I (Type 052B) DDG (similar to the SOVREMENNYY) and LUYANG II (Type 052C) DDG. The LUYANG I is fitted with the Russian SA-N-7B GRIZZLY SAM and the YJ-83 ASCM. The LUYANG II is fitted with an integrated air defense system and the indigenously-produced HHQ-9 SAM.

Air Defense. In addition to the shipborne air defense developments listed above, in 2004 China purchased the Russian-made S-300PMU-2. The first battalion is expected to arrive in 2006. With an advertised intercept range of 200 km, the S-300PMU-2 provides increased lethality against tactical ballistic missiles and more effective electronic counter measures.

Ground Forces. China has 400,000 ground force personnel deployed to the three military regions opposite Taiwan, an increase of 25,000 over last year. China has been upgrading these units with tanks, armored personnel carriers, and a substantial increase in the amount of artillery pieces.

- In December 2005 the PLA completed another round of downsizing, reducing personnel by some 200,000. This brought the size of the PLA to about 2.3 million, according to official statistics. The inclusion of the paramilitary People's Armed Police (which has upwards of 1.5 million personnel) and reserves (800,000) increases the total figure for active, reserve, and paramilitary units to over 4.6 million. The 2004 Defense White Paper also declares that China can draw upon more than 10 million organized militia members.

Developments in Chinese Military Doctrine

- In October 2005, China announced that it completed a translation of the 2001 edition of the Science of Strategy (Zhanlüexue), giving English-language readers better insight into official Chinese views of modern warfare.

- China is digesting lessons learned from Coalition military operations in Afghanistan and Iraq, as well as the international response to the December 2004 Asian tsunami. China can be expected to incorporate these lessons into updated military doctrine, planning, and acquisition programs.

Technology Transfers and Acquisitions to Enhance Military Capability

- China has maintained pressure on the European Union (EU) to lift its embargo on the sale of arms to China, which the EU established in response to the Tiananmen crackdown in 1989. An EU decision to lift the embargo would, in the U.S. view, weaken the restraints on EU member states' transfers of arms and other technologies with military application to China. Chinese access to advanced European military and dual-use technologies could result in new weapon systems entering into China's inventory and an increase in the quality of, and production capabilities for, current and future systems.

- China signed a contract in September 2005 to

acquire approximately 40 IL-76 transport planes and 8 IL-78/MIDAS air refueling aircraft from Russia. These aircraft will increase PLA Air Force strategic lift capacity, in particular, the ability to airdrop troops and fighting vehicles. The refueling aircraft will extend the range and strike potential of China's bomber and fighter aircraft.

- China continues to employ covert and illegal means to acquire foreign military and dual-use technology. Individuals allegedly engaged in illicit technology transfers to China were arrested in the United States and Russia in the fall of 2005.

Assessment of Challenges to Taiwan's Deterrent Forces

- The cross-Strait military balance is shifting in the mainland's favor as a result of Beijing's sustained economic growth, increased diplomatic leverage, and improvements in military capabilities based within striking range of Taiwan.

- Taiwan's defense spending has steadily declined in real terms over the past decade, even as Chinese air, naval, and missile force modernization has increased the need for defensive measures that would enable Taiwan to maintain a credible self-defense.

- In 2005, Taiwan leaders stated their intention to reverse this trend and increase defense spending to three percent of GDP by 2008.

- The Special Budget for procurement of major defense systems, designed to correct growing imbalances in the critical areas of missile and air defense and anti-submarine warfare, has been before the Taiwan Legislative Yuan since 2004. The United States approved these systems for sale to Taiwan in 2001.

- The United States continues to make available defense articles, services, and training assistance to enable Taiwan to maintain a sufficient self-defense capability consistent with the provisions of the Taiwan Relations Act, Public Law 96-8 (1979). In December 2005 the Taiwan Navy accepted delivery of the first two of four KIDD-class DDGs.

Chapter Two
Understanding China's Strategy

"冷静观察，站稳脚跟，沉着应付，韬光养晦，善于守拙，绝不当头."

"Observe calmly; secure our position; cope with affairs calmly; hide our capacities and bide our time; be good at maintaining a low profile; and never claim leadership."

- Deng Xiaoping[1]

China's Uncertain Future

The rapid growth of the PRC's economy, coupled with its military expansion, has propelled China's emergence as a regional power with an increasingly global foreign policy. However, there is much uncertainty surrounding China's future and the path it will take. As President Bush declared in the 2006 National Security Strategy, the U.S. "seeks to encourage China to make the right strategic choices for its people, while we hedge against other possibilities." This strategy is not unique to the United States; other regional actors, too, will naturally hedge against the unknown.

The direction China takes will be determined in part by the strategic choices its leaders make, but also by a variety of factors over which China will not have complete control. These choices and factors include:

Military Modernization. China continues to invest heavily in the PLA, particularly its strategic arsenal and power-projection capabilities. In March 2006 China announced that its annual defense budget would increase by 14.7 percent over the previous year, bringing the announced amount to approximately $35 billion, equal to about 1.5% of GDP. This year's increase sustains a trend that has persisted since the 1990s of defense budget growth rates exceeding overall economic growth, although the growth of defense expenditure has lagged behind the growth in overall government expenditure over the same period of time. As the 2006 Quadrennial Defense Review (QDR) Report notes, China is likely to continue making large investments in high-end, asymmetric military capabilities, emphasizing electronic and cyber-warfare; counter-space operations; ballistic and cruise missiles; advanced integrated air defense systems; next-generation torpedoes; advanced submarines; strategic nuclear strikes from modern, sophisticated land- and sea-based systems; and theater unmanned aerial vehicles for use by China's military and for global export.

Many aspects of China's national security policy, including its motivations, intentions, and decision-making processes, remain secret. Key aspects of China's military modernization goals and plans are not transparent. Since the early- to mid-1990s, China's military modernization has focused on expanding its options for Taiwan contingencies, including deterring or countering third-party intervention. Evidence also suggests that China is developing capabilities that will enable it to project power beyond Taiwan. As China's capabilities grow, its leaders could consider using force or threats to achieve their strategic objectives.

[1] As cited in, "Deng Puts Forward New 12-Character Guiding Principle for Internal and Foreign Policies," Ching Pao (Hong Kong), No. 172, pp. 84-86, 5 November 1991. FBIS HK0611100091.

Nationalism. The Chinese Communist Party continues to rely on nationalism to shore up its legitimacy. However, rising nationalism could limit the options of China's leaders in a crisis. The Party's need to appear as the defender of Chinese sovereignty and national dignity could also lead to destabilizing actions. Examples include the March 2005 "anti-secession law" and widespread anti-Japanese protests the following month.

Economic Growth. The extraordinary economic success of the PRC is a central factor in its emergence as a regional and global power, and is the basis for China's increasingly capable military. The Party has also relied on the successful transformation of the economy as a primary source of legitimacy. However, underlying structural weaknesses threaten to undermine that economic growth. Whether China maintains its high rate of investment in its military in this context will be one important indication of its future trajectory.

Political Reform. The Chinese Communist Party continues to give priority to economic reform over political liberalization. However, internal pressures for political liberalization persist. An internal political crisis could lead China to turn inward, or alternatively could prompt a more assertive foreign policy to build domestic support.

Corruption. Corruption remains a systemic and growing problem throughout the Party apparatus, especially among officials at the provincial level and below, presenting a challenge to regime legitimacy. China's senior leaders recognize the deleterious effect that corruption has on the public's trust of the Party. In a speech before the Central Discipline Inspection Commission in January 2006, President Hu Jintao pointed out that " . . . bringing about a rapid and sound development of the economy and society will hinge on the [Party], and on whether or not the [Party] will be able to effectively manage its members and officials as well."

Non-Traditional Security Challenges. China faces growing internal challenges often manifested in "mass incidents" – large-scale protests – that have increased annually in China for more than a decade. The number of these incidents reached an estimated 74,000 in 2004. Accurate and complete data for 2005 are not yet available.[2] Chinese analysts maintain that land seizures and illegal fees on rural farmers now represent the most frequent causes of unrest, estimating some 80,000 illegal seizures and other unlawful land-related practices occurred in 2004. These protests are becoming more violent, resulting in higher casualties for both demonstrators and police forces.

At the same time, Chinese leaders have recognized the potential negative impact that global and transnational threats have on China's economic development and domestic stability. These threats include: HIV/AIDS; the H5N1 avian influenza virus; international crime and narcotics trafficking; international terrorism; and proliferation of weapons of mass destruction. The Chinese government's success or failure in addressing these mounting non-traditional security challenges will help determine its own, as well as China's, future.

Global Security Roles. The Chinese government is still adapting to its role as an emerging power

[2] Official figures for protests in 2005 have yet to be published. Some Asian and Western media, based on official Chinese police crime reports, have widely reported a figure of 87,000 "protests" in 2005. Law enforcement specialists' careful analysis of the original Chinese terms suggest these reports have confused the police term for "mass incidents" (i.e. protests) with their somewhat similar term for a variety of "social order" crimes (e.g., disorderly conduct, fights, public intoxication). Statistical inconsistencies raise additional questions over whether the 87,000 figure refers to protests. The 87,000 figure is a reported 6.6 percent increase from 2004 to 2005 – statistically inconsistent with the known figure of 74,000 protests or "mass incidents" in 2004.

by taking on greater regional and international responsibilities. Positive steps include increasing participation in regional and global fora and in peace operations, humanitarian assistance, and disaster relief. China has hosted the Six-Party Talks aimed at eliminating North Korea's nuclear programs and has worked peacefully to address long-standing territorial disputes with Russia, Vietnam, India, and Central Asian countries.

On the other hand, China continues to dispute sovereignty claims in the South and East China Seas and is preparing for potential conflict over Taiwan. Chinese companies continue to play a negative role in the proliferation of advanced military capabilities, and continue to supply countries such as Iran with critical military technologies. Beijing has refused to join the Proliferation Security Initiative. China has not fully leveraged its close ties with Pyongyang to stem North Korean nuclear ambitions, and continues to maintain or strengthen political, economic, and military ties with Iran, Sudan, Burma, Zimbabwe, Cuba, and Venezuela, undercutting international efforts to influence those states.

Strategy with Chinese Characteristics

China's grand strategy, as it defines it, is one of:

- maintaining balance among competing priorities for sustaining momentum in national economic development; and,
- maintaining favorable trends in the security environment within which such economic development can occur.

Two concepts central to understanding how China would achieve the goals of its grand strategy are "comprehensive national power" (CNP) (zonghe guoli) and the "strategic configuration of power," or "shi." CNP is the concept by which China's strategic planners evaluate and measure China's national standing in relation to other nations. It includes qualitative and quantitative measures of territory, natural resources, economic power, diplomatic influence, domestic government, military capability, and cultural influence.

The "24 Character" Strategy

In the early 1990s, former paramount leader Deng Xiaoping (d. 1997) gave guidance to China's foreign and security policy apparatus that, collectively, has come to be known as the "24 character" strategy: "observe calmly; secure our position; cope with affairs calmly; hide our capacities and bide our time; be good at maintaining a low profile; and never claim leadership." Later, the phrase, "make some contributions (you suo zuo wei)" was added.

This strategy has often been quoted by senior Chinese national security officials, especially as it relates to China's diplomacy. Although certain aspects of this strategy have been debated in recent years within China's security establishment – namely the relative emphasis placed upon "never claim leadership" or "make some contributions" – taken as a whole, the strategy suggests both a short-term desire to downplay China's ambitions and a long-term strategy to build up China's power to maximize options for the future.

China's leading civilian and military think tanks and educational institutions apply slightly different measures to monitor changes in China's relative CNP. A recent report by the Chinese Academy of Social Sciences, for example, ranked China sixth among the top 10 nations, based upon

economic, military, and diplomatic metrics. Such statistical modeling exemplifies China's interest in understanding the sources of national power and indicates how Chinese strategists measure the relative distribution of power in the international system.

The "strategic configuration of power," or "shi," is roughly equivalent to an "alignment of forces," although there is no direct Western equivalent to the term. Chinese linguists also suggest it refers to the "propensity of things," "potential," or the "potential born of disposition," that only a skilled strategist can exploit.

Since the early 1980s, Chinese leaders have described their national development strategy as a quest to increase China's CNP. They continuously assess the broader security environment, or "strategic configuration of power," for potential challenges and threats (e.g., potential conflict with Taiwan that involves the United States) as well as opportunities (e.g., the collapse of the Soviet Union) that might prompt an adjustment in national strategy.

China's leaders have identified the initial decades of the 21st Century as generally favorable, and view it as a "strategic opportunity" to make China an economically strong, unified state. Chinese leaders value such progress for its own sake, as well as for the enhancements to military forces and national power this progress will allow.

Military Modernization . . . Beyond Taiwan

At the end of the Cold War, China entered a period unique in its modern history in that it does not face a direct threat from another nation. Yet, it continues to invest heavily in its military, particularly in programs designed to improve power projection. The pace and scope of China's military build-up already place regional military balances at risk. Current trends in China's military modernization could provide China with a force capable of prosecuting a range of military operations in Asia – well beyond Taiwan – potentially posing a credible threat to modern militaries operating in the region.

In its 2004 Defense White Paper, China notes that, "[t]he role played by military power in safeguarding national security is assuming greater prominence." As China's economy expands, so too will its interests and the perceived need to build a military capable of protecting them. In a January 2005 interview, Lieutenant General Liu Yazhou, currently Deputy Political Commissar of the PLA Air Force, discussed this dynamic in a more abstract form: "when a nation grows strong enough, it practices hegemony. The sole purpose of power is to pursue even greater power . . . Geography is destiny . . . when a country begins to rise, it should first set itself in an invincible position." Statements such as this, while not necessarily reflecting the views of senior Chinese leaders, nevertheless shed light on how influential military thinkers are characterizing the dynamics of power and strategy.

Although the principal focus of China's military modernization in the near term appears to be preparing for potential conflict in the Taiwan Strait, the writings of Chinese military strategists suggest Beijing is also surveying the strategic landscape beyond Taiwan. Some Chinese analysts have expressed the view that control of Taiwan would enable the PLA Navy to move its maritime "defensive" perimeter farther seaward and improve Beijing's ability to influence regional sea lines of communication. For example General Wen Zongren, then-Political Commissar of the elite PLA Academy of Military Science, stated in March 2005 that resolving the Taiwan issue is of "far reaching significance to breaking international forces' blockade against China's maritime security. . . .

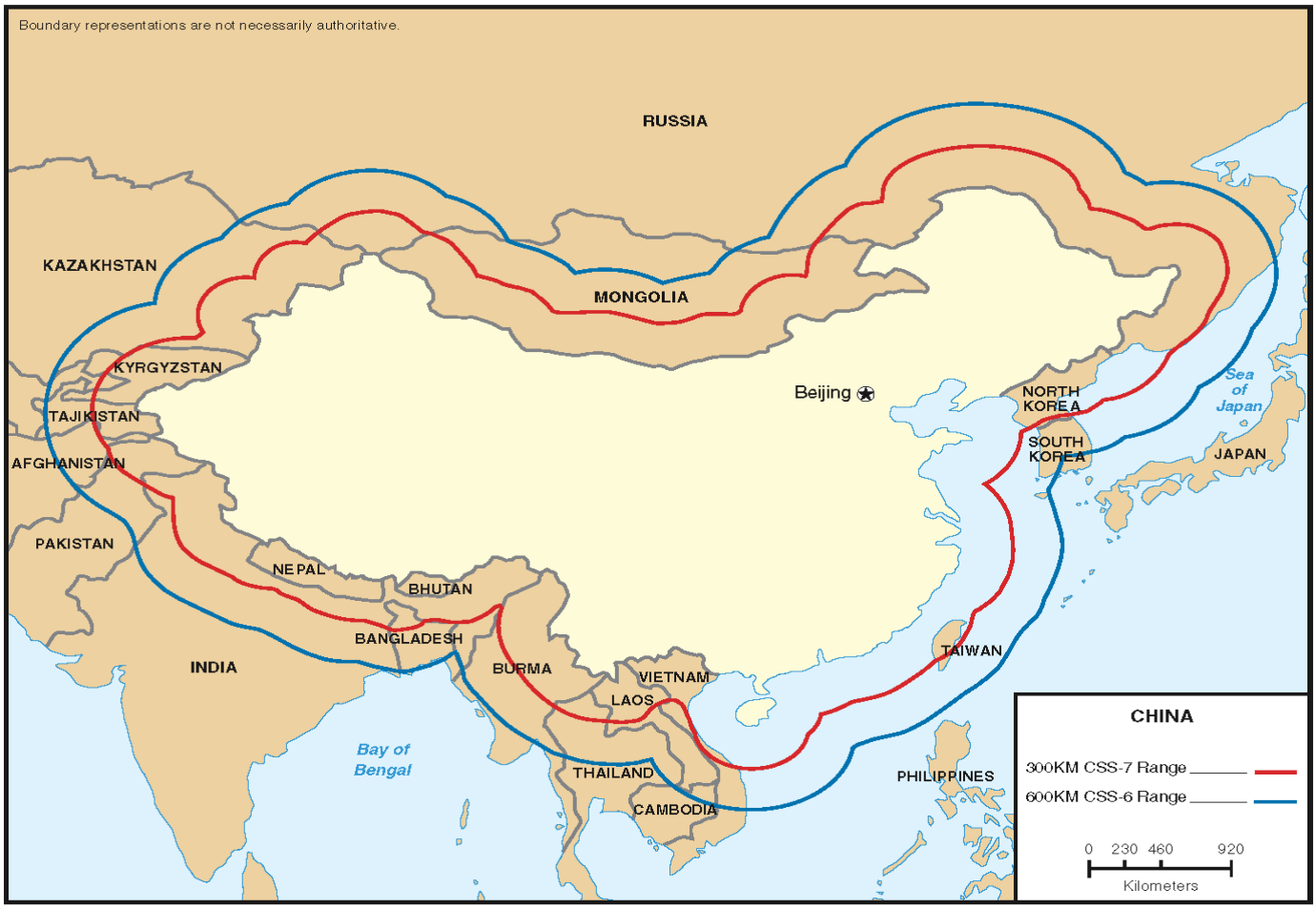


Figure 1. *Maximum Ranges for China's Conventional SRBM Force.*
Note: *China currently is capable of deploying ballistic missile forces to support a variety of regional contingencies.*

Only when we break this blockade shall we be able to talk about China's rise."

Analysis of PLA acquisitions also suggests China is generating military capabilities that would have utility beyond a Taiwan contingency. For example, all of China's SRBMs, although garrisoned opposite Taiwan, are mobile and can deploy throughout the country. China is also developing new medium-range systems that will improve its regional targeting capability. There are corresponding improvements in intercontinental-range missiles capable of striking targets across the globe, including in the United States.

Similarly, China's air and naval force improvements are scoped for operations beyond Taiwan. Airborne early warning and control and aerial-refueling programs will extend the operational range for PLA fighter and strike aircraft, permitting extended operations into the South China Sea. Naval acquisitions, such as advanced destroyers and submarines, reflect Beijing's pursuit of capabilities to protect and advance its maritime interests. China also has an expressed interest in developing capabilities that could hold at risk maritime targets out to the "second island chain" some 1,000 miles from the Chinese coast. Over the long term, improvements in China's C4ISR, including space-based and over-the-horizon sensors, could enable Beijing to identify, track and target foreign military activities deep into the western Pacific.

Chinese forces have increased operations beyond China's borders and coastal waters, most notably the highly publicized 2004 intrusion of a

HAN-class nuclear submarine in Japanese territorial waters during operations far into the western Pacific Ocean. After completing its first around-the-world naval cruise in July 2002, China continues to send its fleet abroad to show the flag and gain familiarity with open-ocean operations. During a goodwill cruise to Pakistan, India, and Thailand in 2005, China conducted its first bilateral maritime exercises outside waters near China.

Finally, China has increased participation in global peacekeeping operations. China now has some 1,000 civilian police and support personnel serving as peacekeepers abroad, including 595 attached to the UN Observer Mission in Liberia (UNMIL), 230 with the UN Observer Mission in the Democratic Republic of the Congo (MONUC), and 127 as part of the UN Mission for Stabilization in Haiti (MINUSTAH). China is said to be considering committing troops to peacekeeping operations in Sudan, provided this meets with approval from the African Union and the Government of Sudan.

The purposes to which China could apply its current and future military power remain uncertain to the United States and countries in the region, owing to China's lack of transparency. As China's military power grows, its leaders' options increase with respect to the use of coercion to press diplomatic advantage, advance interests, or resolve disputes.

Disagreements over maritime claims remain with Japan and several Southeast Asian nations (i.e., Vietnam, the Philippines, Malaysia, and Brunei – all claimants to all or parts of the Spratly Islands in the South China Sea) and could lead to renewed tensions in these areas. Similarly, the need to protect China's energy investments in Central Asia could provide an incentive for military intervention if instability surfaces in the region. A failure to resolve the North Korean nuclear issue, combined with that country's increasingly perilous economic conditions, could produce instability on the Korean Peninsula or a collapse of the North Korean regime. In such a contingency, China could face a choice between unilateral and multilateral responses.

Chapter Three
China's Military Strategy and Doctrine

"你打你的，我打我的"

"You fight your way and I fight my way."

- Mao Zedong

Overview

Drawing on lessons learned from observing foreign conflicts (particularly U.S.-led campaigns), Soviet and Russian military theory, and the PLA's own, albeit limited, combat history, Chinese military theorists have developed a framework for a doctrine-driven reform that affects all parts of the Chinese armed forces.

PLA theory on fighting and winning "local wars under conditions of informationalization" emphasizes the role of technology, particularly information technology, as a force-multiplier enabling PLA forces to conduct relatively limited military operations with precision at greater distances from China's borders. However, in practice, the PLA remains untested. The lack of operational experience hampers outside assessments of the extent to which PLA reformers have produced a force capable of meeting the aspirations of its doctrine. The same applies to internal PLA assessments as well, giving rise to the potential for false confidence or other miscalculations in crises.

China does not publish a doctrinal statement equivalent to the U.S. National Military Strategy. Based on analysis of available documents, speeches, and writings, we can discern that China uses what it calls the "National Military Strategic Guidelines for the New Period" as its national military strategy. Evidence suggests the "Guidelines" feature two primary components: an operational component – "active defense" – and an organizational component – "new-period army building." The specific contents of the "Guidelines" are unknown. Outside observers have few direct insights into the leadership's thinking about the use of force or into contingencies that shape the PLA's force structure or doctrine. The PLA's role as an organ of the CCP rather than the State is also a factor to consider, adding another element of uncertainty with respect to decisions to use force.

The "active defense" guideline posits a defensive military strategy and asserts that China does not initiate wars or fight wars of aggression, but engages in war only to defend national sovereignty and territorial integrity. This, according to a PLA text entitled the Science of Campaigns (Zhanyixue) (2000), "determines that justice is on [China's] side." Beijing's definition of an attack against its territory, or what constitutes an initial attack, is too vague to clarify matters to outsiders, however. In cases where Chinese use of force involves core interests, such as sovereignty or territorial claims (including Taiwan), Beijing could claim military preemption as a strategically defensive act. For example, China refers to its intervention in the Korean War (1950-1953) as the War to Resist U.S. Aggression and Aid Korea. Similarly, border incursions and conflicts against India (1962), the

Soviet Union (1969), and Vietnam (1979) are referred to in authoritative texts as "Self-Defense Counter Attacks." This logic could also add ambiguity to the dimension of China's policy of "no first use" of nuclear weapons.

Once hostilities have begun, evidence suggests the characteristics of "active defense" stress seizing the initiative and offensive operations. According to Zhanyixue:

The essence of this strategic guideline of active defense is to take the initiative and to annihilate the enemy . . . While strategically the guideline is active defense, in military campaigns . . . the emphasis is placed on taking the initiative in active offense. Only in this way can the strategic objective of active defense be realized.

Assessments of China's military modernization indicate that the PLA's capability for limited and relatively precise uses of force is growing, expanding the military options available to PRC leaders. Chinese operational-level military doctrine defines these options as "non-war" uses of force – an extension of political coercion and not an act of war. Examples of such "non-war" uses of force can be seen in the 1995 and 1996 amphibious exercises and missile firings in the Taiwan Strait. Chinese doctrinal materials suggest this concept of "non-war" use of force goes beyond missile firings to include air and missile strikes, assassinations, and sabotage. Chinese planners run a risk, however, that the international community may view these actions, if applied, as acts of war.

Deception in Chinese Military Strategy

The writings of classical Chinese military figures Sun-tzu, Sun Pin, Wu Ch'i, and Shang Yang all contain precepts on the use of deception by successful leaders and generals. In recent decades there has been a resurgence in the study of ancient Chinese statecraft within the PLA. Whole departments of military academies teach moulüe, or strategic deception, derived from Chinese experience through the millennia. Authoritative contemporary doctrinal materials define the goals of strategic deception as "to lure the other side into developing misperceptions . . . and to [establish for oneself] a strategically advantageous position by producing various kinds of false phenomena in an organized and planned manner with the smallest cost in manpower and materials."

The regime's approach to state secrecy is another barrier to transparency in national security decision-making, military capabilities, and strategic intentions. While we see improvements in the quality of reporting in official Defense White Papers, in other areas China takes a selective approach to transparency restricted to secondary areas of military activity such as military exchanges, joint exercises, and confidence-building measures involving visits to previously secret facilities.

The Strategic Direction of PLA Modernization

The PLA is transforming from a mass infantry army designed to fight a protracted war of attrition within its territory to a modern, professional force, sized for and capable of fighting high-intensity, local wars of short duration against high-tech adversaries at, or beyond, China's borders. PLA theorists and planners believe future campaigns will be conducted simultaneously on land, at sea, in the air, in space, and within the electronic sphere. The PLA characterizes these conflicts as "local wars under conditions of informationalization."

Ground Forces. PLA ground forces focus on offensive combat employing deep battle concepts with support by joint forces. "Deep battle" envisions electronic and information warfare to

paralyze the enemy followed by precision strikes throughout the depth of enemy formations to destroy key nodes and disrupt cohesion. Long-range precision strikes combine with airborne, air assault, and special operations to further disrupt enemy plans. "Deep battle" operations facilitate ground maneuver combat with armor and mechanized infantry providing the main offensive force. Characteristics of the "deep battle" concept include non-linear combat, continuous operations, and rapid transitions between offensive and defensive combat.

Naval Forces. The PLA Navy (PLAN) is focused on protecting state sovereignty and national integrity, and appears to be increasingly thinking about regional contingencies, including the protection of maritime resources and sea lines of communication. This concept is also discussed in geographic terms, such as the "first" or "second island chain" strategy, or by the 200 nautical mile Exclusive Economic Zone (EEZ) claimed by the PRC. China has an expansive view of its rights in the EEZ, treating the area as fully sovereign territory in a manner not consistent with international law. In addition to protecting China's littoral zone, naval modernization seeks to present a credible threat to Taiwan and to any third party that might intervene on Taiwan's behalf in a crisis.

Air Forces. The PLA Air Force (PLAAF) focuses on enhancing its defensive capabilities while developing a robust, "out of area" offensive capability to provide effective support for joint operations. The PLAAF's goal is to develop a mobile, all-weather, day-night, low-altitude, over-water force that is capable and flexible enough to quickly perform multiple operational tasks and

Figure 2. *Geographic Boundaries of the First and Second Island Chains*



China's Evolving Special Operations Forces

Based on press accounts, China's current special operations forces (SOF) comprise "rapid reaction" forces in the army, air force, and navy as well as dedicated army, marine, army aviation, and airborne SOF units.

SOF employ various small arms and explosives (e.g., light machine guns, assault rifles, grenade launchers, anti-rocket launchers, flamethrowers, underwater demolitions, UAVs and ultralights) to perform a variety of reconnaissance, direct action, and counter-terrorism missions.

Following observations of U.S. Special Forces in the 1991 Persian Gulf War, the PLA began to place greater emphasis on expanding China's own SOF capability, particularly as a force multiplier in a Taiwan Strait scenario. PLA researchers continue to study SOF involved in U.S. and Coalition operations. In 2002, the PLA reportedly set up a dedicated unit to monitor U.S. Special Operations activities, including target acquisition and use of UAVs, in Afghanistan. The PLA also studied the role of special operations forces in Operation IRAQI FREEDOM.

PLA SOF training emphasizes physical fitness in activities, such as martial arts and long-distance running, swimming, and the use of specialized equipment. Recent exercises reported in the PLA press featured reconnaissance and attack elements inserted into target areas at night using powered parachutes, helicopters, and assault boats.

to project power beyond the "first island chain." Priorities include: weapon system acquisition and integration; integrated C4ISR; automated command and control; information operations; joint operations; increased quality, training, and retention of recruits; development of a knowledgeable NCO corps; greater mobility in operations; and improved logistics and maintenance support.

Joint Operations. The PLA's ambition to conduct joint operations can be traced to lessons learned from U.S. and Coalition operations since the 1991 Persian Gulf War. Although the PLA has devoted considerable effort to developing joint capabilities, it faces a persistent lack of inter-service cooperation and a lack of actual experience in joint operations. The PLA hopes eventually to fuse service-level capabilities with an integrated C4ISR network, a new command structure, and a joint logistics system. The 2004 inclusion of service commanders on the Central Military Commission is an example of how China is attempting to strengthen inter-service cooperation.

Since 2000, the PLA has conducted some 16 multi-service exercises with "joint" characteristics and/or "joint" command and control, improving PLA experience levels, and yielding some insights into its future direction. These insights will become clearer as more advanced weapons, sensors, and platforms enter the inventory and training begins to reflect true multi-service operations.

China has devoted considerable energy and effort to develop military strategy and doctrine to meet evolving conditions in the world. Yet analysis of Chinese writers' extensive study of coalition operations in Iraq and Afghanistan suggests China continues to be surprised at the rapid pace of change in modern warfare. The lack of personal military

experience within China's top leadership contributes to the problem. The April 2001 EP-3 incident was a concern for many reasons, including for what it seemed to imply about leadership miscalculations and the quality of communication between the military and civilian leaders.

Doctrinal Evolution - Local Wars Under the Conditions of Informationalization

Despite advances in technology, Mao Zedong's concept of "People's War" remains a dominant theme in Chinese military thinking on a par with Soviet "national military doctrine." For Chinese leaders, "People's War" serves as the underlying principle for, and provides a scientific assessment of, how wars must be fought. It envisions defense of the Chinese mainland against a more advanced adversary by capitalizing on China's inherent strengths (large population and depth of land-mass), employing civil-military integration and mobilization, and applying traditional warfighting skills of speed, surprise, deception, and stratagem. For Chinese military planners, the most likely type of future combat they will face – local wars on China's periphery – will be fought with the principles of "People's War" in mind.

In response to China's evolving security environment and threat perceptions, however, China's military planners understand that the types of wars they must prepare to fight have undergone a series of transformations. During the Maoist era, China focused on preparing to fight an "early war, a major war, and a nuclear war," prescribing "army building" based on mass, depth, and preparation for protracted wars.

In the post-Mao era, this focus shifted as PLA strategists began to conceive of future wars as being short, intense, and of limited geographic scope. External factors, such as U.S.-Soviet détente and U.S.-China cooperation, also diminished the perceived threat of China's involvement in a nuclear conflict. A concept of "local war under modern conditions" emerged during the 1980s to guide "army building" through the major round of military-wide reforms launched in 1985, during which the PLA cut one million personnel, reduced the number of military regions from 11 to 7, and restructured the PLA's 36 army corps into combined-arms group armies. Ground forces received less emphasis in favor of navy and air force programs, responding to new requirements for greater speed, mobility, and multi-service operations.

Following the 1991 Persian Gulf War, which brought home to China's leaders how the advance of technology threatened to leave them behind, PLA planners began preparing for "local wars under high tech conditions." This shift reflected lessons learned from that conflict with an emphasis on C4ISR, information warfare, precision strike, and advanced air defense and logistics. The 1995-1996 Taiwan Strait crisis served as a catalyst to focus China's efforts and mobilize resources for military modernization and expansion. The crisis also provided China's military planners with a specific scenario to guide force planning – a war over Taiwan that featured U.S. military intervention. This view was reinforced by the 1999 NATO Operation ALLIED FORCE over Kosovo. In its December 2004 Defense White Paper, China replaced "local wars under high tech conditions" with "local wars under the conditions of informationalization." This new concept summarizes China's experiences and assessments of the implications of the revolution in military affairs – primarily the impact of information technology and knowledge-based warfare.

Chapter Four
Resources for Force Modernization

"We need to build an innovative system of defense science and technology ... that integrates military and civilian scientific-technological resources, and that organically integrates basic research, applied R&D, product designing and manufacturing, and procurement of technologies and products so as to create a good structure under which military and civilian high technologies are shared and mutually transferable."

- President Hu Jintao, January 9, 2006

Overview

Sources for PLA force modernization include domestic defense expenditures, foreign acquisitions, and indigenous defense industrial developments – all of which are driven by the performance of the economy. China's impressive economic growth has enabled Beijing to make ever-higher investments in the defense sector. Real growth of China's official defense budget, for example, has averaged double-digit annual growth every year for the past decade. The official budget does not account for hidden assets and off-budget revenues and therefore does not give a full picture of actual military expenditure.

As its domestic defense industry matures, China is actively seeking foreign weapons and technology, primarily from Russia and states of the former Soviet Union, to fill near-term capability gaps. In the long term, however, Beijing seeks to establish a wholly indigenous defense industrial sector. China's military industrial base also benefits from foreign direct investment and joint ventures in the civilian sector, the technical knowledge and expertise of students returned from abroad, and industrial espionage. The EU arms embargo is a critical issue in this context. The ban remains an important symbolic and moral restraint on EU countries' military interactions with the PLA. Lifting the embargo would potentially allow China access to military and dual-use technology for improving current weapon systems and developing indigenous capabilities to produce future systems.

Seeking Sustainable Growth

China's economy has witnessed tremendous growth since reform and opening began in 1978. Linear projections of China's economy show real GDP growth through 2025 to $6.4 trillion. However, these linear projections assume the absence of natural disasters, limited domestic social disruption, and access to sufficient resources. Taking these into account, China's economy is expected to grow at a somewhat reduced rate in the future (5.8 percent real growth over the next 20 years compared to 8.6 percent over the past 20). Comparatively, in 2025 Russia's GDP is projected to be $1.5 trillion, Japan's $6.3 trillion, and the U.S., $22.3 trillion.

The rapid development of China's coastal regions has produced numerous social problems, including growing economic inequality. A January 2006 article co-authored by the Commander and Political Commissar of the paramilitary People's Armed Police (PAP) notes, "the uneven character of economic and social development . . . and

contradictions among the people [have resulted in] growing numbers of group incidents . . . [that have been] difficult to handle."

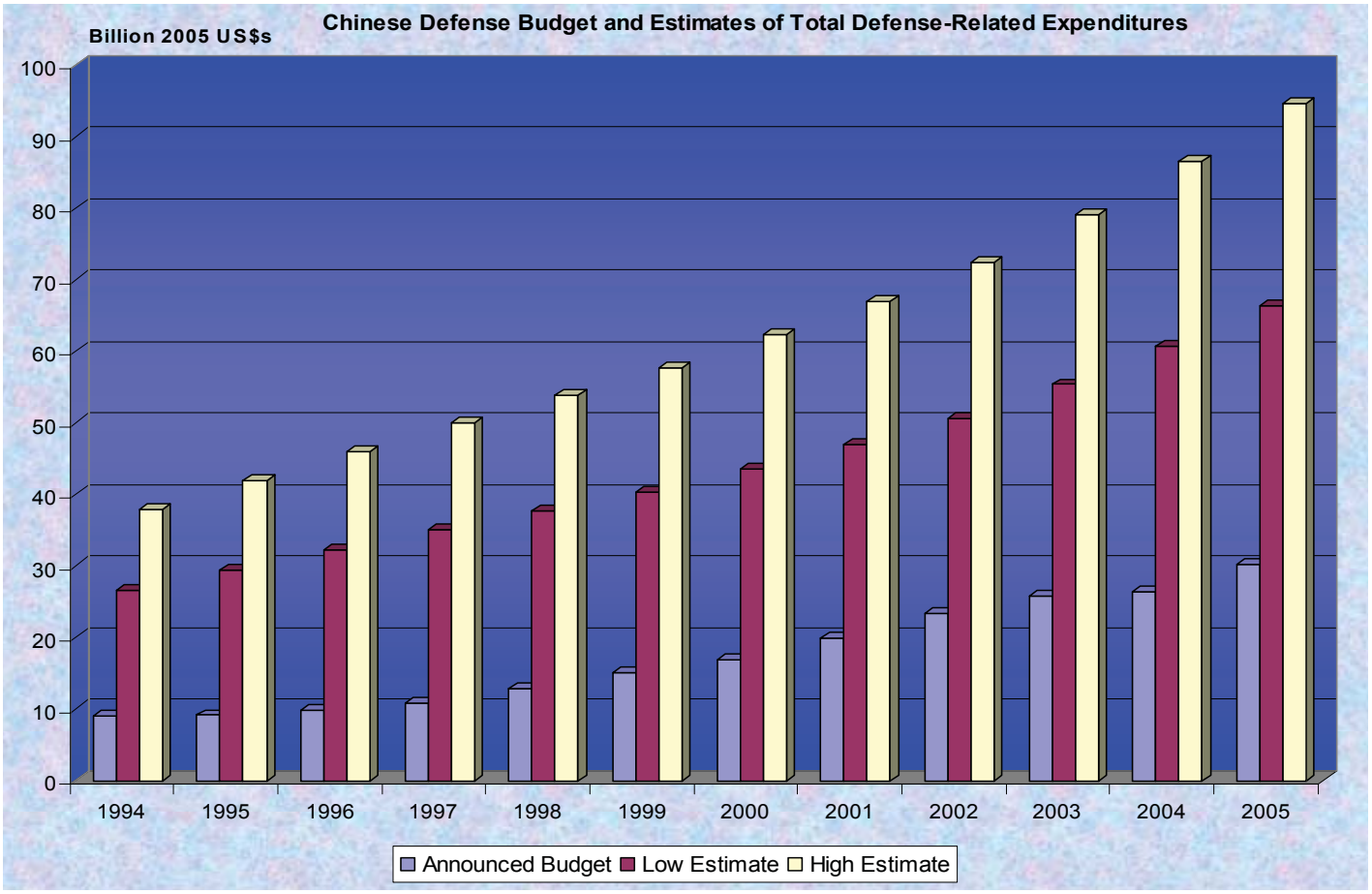
China's financial system has not kept pace with the economy, leaving many unsustainable and insolvent institutions. State-owned enterprises have been a major drag on the economy, but their elimination would reduce social services available to workers. Furthermore China's "One-Child" policies have undermined the traditional Chinese dependence on large families for social support. As the average age of China's population starts to rise, the problem of caring for the elderly will become more burdensome. The failure to deal adequately with any or all of these challenges could put a brake on economic expansion.

To address these concerns Party leaders constructed the 11th Five-Year Plan (2006-2010) to promote balanced and sustainable economic growth. Under the plan China's leaders intend to revitalize the northeast "rust belt;" encourage coastal provinces to concentrate on advanced technology; expand the service sector; and shift economic activity to the northeast, central, and western provinces where new urban centers will be created. This ambitious redistribution could strain central government coffers and affect funding for the PLA.

Military Budget Trends

Since the early 1990s, China has steadily increased resources for the defense sector. On March 5, 2006, a spokesperson for China's National People's Congress announced that China would increase its publicly disclosed military budget in 2006 by

Figure 3. *Chinese Defense Budgets and Estimates of Total Related Expenditures*



14.7 percent, to approximately $35 billion. The 2006 increases continue a trend of double-digit increases in China's published figures that has prevailed since 1990. When adjusted for inflation, the nominal increases have produced double-digit actual increases in China's official military budget every year since 1996. However, the officially published figures substantially underreport actual expenditures.

DIA estimates that China's total military-related spending will amount to between $70 billion and $105 billion in 2006—two to three times the announced budget. At the top end, this represents a figure for spending more than twice that of Japan. If China maintains a relatively constant defense burden – proportion of GDP devoted to defense expenditures – nominal total defense spending could rise three-fold or more by 2025, based on current economic projections.

Determining Actual Military Expenditures

The lack of detail in public Chinese military expenditure data is an outgrowth of a political system in which military spending, along with other aspects of military posture, is treated as a state secret. While the United States has long urged China to increase transparency in reporting military budgets and expenditures, to date Beijing has only provided a highly aggregated breakout of maintenance and operations, personnel, and equipment roughly defined as equal shares in its Defense White Papers.

What little public information China releases about defense spending is further clouded by a multitude of funding sources, subsidies, and cutouts at all levels of government and in multiple ministries. Real spending on the military, therefore, is so disaggregated that even the Chinese leadership may not know the actual top line. The Intelligence Community assesses the following additional funding streams not reflected in the official military budget are used to support China's armed forces:

- **Foreign weapons procurement, sales, and aid**. Foreign weapons purchases are funded directly by the State Council and are often negotiated on commercial terms. The revenues generated by arms sales primarily go to military industries, but the PLA receives a small commission on new sales and sales of used and warehouse stocks. China averages approximately $600 million in arms sales annually.

- **Paramilitary (People's Armed Police) expenses**. The People's Armed Police (PAP) is funded from the Ministry of Finance and the Ministry of Public Security, although some sources indicate it is partially paid for out of Ministry of State Security accounts. Ministries employing PAP personnel and localities with PAP units also provide funding. The PAP earns additional funding from economic activities including mining and agriculture, as well as fines and fees from its security activities.

- **Strategic Forces**. The PLA Second Artillery Corps is the only service with its own budget. Some analysis indicates that it also likely receives some direct funding from the State Council outside the announced military budget.

- **State subsidies for the military-industrial complex**. Military factories under the General Armament Department (GAD) receive direct state allocations for converting factory use between civil and military products. Machinery upgrades for civilian production are often intended for improved military production. Weapons production costs are thus partially defrayed by State Council subsidies, rather than funded wholly through the military budget. Military-related industries are also encouraged to

develop and produce civilian products to reduce overhead and reliance on government subsidies.

- **Military-related research and development**. Funding sources for military research and development include direct allocations from the Commission of Science, Technology and Industry for National Defense (COSTIND), GAD, the Ministry of State Science and Technology, the industries themselves, research institute self-financing earnings, local government funding, and others. More than 80 percent of government science and technology appropriations are not associated with overt government-sponsored programs, making it difficult to account for expenditures in military-related activities.

- **Extra-budget revenue**. PLA divestiture of commercial enterprises in the late 1990s did not affect the PLA's traditional production enterprises (e.g., farms and uniform/materiel manufacturers). Other sectors, such as transportation and telecommunications, were exempted. Almost 3,000 commercial firms belonging to the PLA and PAP were transferred to local governments and some 4,000 others were closed, but 8,000-10,000 enterprises continue under PLA direction.

Foreign Weapons and Technology Acquisition

According to currently available data, China signed arms agreements with suppliers worth almost $13 billion from 2000-2005, with deliveries during this period estimated at $11 billion. Russia alone provided approximately 95 percent of arms sold to China in the last decade and remains China's chief supplier of weapons and materiel.

Beijing's purchase of advanced Russian weapon systems available for export has included Su-27 and Su-30 fighter aircraft; AA-12 air-to-air missiles (AAMs); SA-10, SA-15, and SA-20 surface-to-air missile (SAM) systems; 3M-54E (SS-N-27B) ASCMs; KILO-class submarines; SOVREMENNYY II-class destroyers; IL-76 transport aircraft, IL-78 tanker aircraft; and associated weapon systems.

China also relies on critical Russian components for several of its weapon production programs and, in some cases, has purchased the production rights to Russian weapon systems. Russia continues to cooperate with China on technical, design, and material support for numerous weapons and space systems.

Figure 4. *Russian Arms Sales to China, 2001-2005*
Source: Defense Intelligence Agency.
Note: Quantity indicates numbers of units in the purchase agreement. Actual deliveries may be spread across several years.

Equipment	Year	Quantity
Su-30MKK aircraft	2001	38
Kilo-class submarines	2002	up to 8
SOVREMENNYY II-class destroyers	2002	2
S-300PMU-1 surface-to-air missile system	2002	4 battalions
Su-30MK2 aircraft	2003	24
S-300PMU-2 surface-to-air missile system	2004	8 battalions
AL-31F aircraft engines for the F-10 fighter	2004	100
IL-76 transport aircraft	2004	10
RD-93 aircraft engines for the JF-17 fighter	2005	100
IL-76 transport aircraft	2005	40
IL-78 tanker aircraft	2005	8

Russia has historically refrained from transferring its most sophisticated weapons systems to China. However, China's persistent pressure on Russia to make available more advanced military equipment – particularly using Russia's dependence on Chinese arms purchases as leverage – could cause a shift in Sino-Russian military cooperation.

In addition to Russia, Israel has also been a supplier of advanced military technology to China. Although Israel began the process of canceling the PHALCON program with China in 2000, Beijing is working to complete the development of an AWACS variant built on an IL-76 airframe. The Israelis transferred HARPY UAVs to China in 2001 and conducted maintenance on HARPY parts during 2003-2004. In 2005, Israel began to improve government oversight of exports to China, strengthening its controls of military exports and establishing controls on dual-use exports. These improvements will require legislation by the Knesset, re-organization within the Israeli Ministry of Defense, and enhanced roles for its Ministry of Foreign Affairs and Ministry of Industry, Trade and Labor.

Military Industries and the Science and Technology Base

Most of China's defense industries rely on foreign procurement and development. The exceptions are few, e.g., ballistic missiles and some space and aviation programs.

Civilian industrial reform has advanced more quickly than the military sector because it can attract foreign investment with fewer restrictions. However, foreign investment in physical plant, management, technical, and marketing expertise in some basic manufacturing sectors, such as strategic metals and electronics, has increased the prospect for spin-off with military and dual-use industries. Joint ventures in China also now manufacture semiconductors and integrated circuits used in military computers, communications and electronic warfare equipment, and missile guidance and radar systems.

Many of China's new generation of scientists, engineers, and managers receive training and have experience in the United States and other countries. In 2004, the United States granted 35,578 F-1, J-1, and M-1 student or exchange visas to PRC nationals, according to the Department of Homeland Security, Office of Immigration Statistics.

China also continues to acquire key technologies and manufacturing methods independent of formal contracts. Industrial espionage in foreign research and production facilities and illegal transfers of technology are used to gain desired capabilities. Where technology targets remain difficult to acquire, foreign investors are attracted to China via contracts that are often written to ensure Chinese oversight, with the eventual goal of displacing foreigners from the companies brought into China.

China's primary military industry weaknesses have been the relative lack of scientific and engineering innovation, bloated bureaucracy, and poor business practices – all issues now receiving considerable attention. In a move to increase innovation through competition, the PLA recently announced it will award permits to private institutions and foreign enterprises for R&D in weapons and equipment.

Lifting the European Union Arms Embargo

The European Union (EU) arms embargo on lethal weapon sales to China was imposed following the PRC's 1989 crackdown on Tiananmen Square demonstrators. The embargo is a political commitment subject to interpretation by EU members. Beijing has mounted a diplomatic

campaign to lift the ban, offering special incentives for foreign investors and the lure of strategic partnerships. Even without incentives, EU defense industries face a shrinking global marketplace and regard China as an attractive source of potential business.

Although the EU has stated that lifting the embargo would result in no qualitative or quantitative increases in China's military capabilities, the EU's tools to enforce such a commitment remain inadequate. Lifting the embargo would potentially allow China access to military and dual-use technologies that would help it improve current weapon systems. It would additionally allow China to improve indigenous industrial capabilities for production of future advanced weapon systems. Ending the embargo could also remove implicit limits on Chinese military interaction with European militaries, giving China's armed forces broad access to critical military "software" such as management practices, operational doctrine and training, and logistics expertise.

If the embargo is lifted, China's strategy would likely center on establishing joint ventures with EU companies to acquire expertise and technology. China can be expected to move slowly to avoid undermining its position that the embargo was merely a "Cold War relic." Even if China were to move quickly, its defense industries would require time to integrate new technologies, processes, and know-how into weapons manufacturing or retro-fits. In the medium to long term, however, China is likely interested in acquiring advanced space technology, radar systems, early-warning aircraft, submarine technology, and advanced electronic components for precision-guided weapons systems.

Lifting the EU embargo would also lead to greater foreign competition to sell arms to the PLA, giving Beijing leverage over Russia, Israel, Ukraine, and other foreign suppliers to relax limits on military sales to China. Potential competition from EU countries already may have prompted Russia to expand the range of systems it is willing to market to China.

Finally, lifting the EU arms embargo could accelerate weapons proliferation to countries that the EU wants to remain isolated. Beijing's track record in transfers of conventional arms and military technologies suggests EU or other third-party sales to China could lead to improvements in the systems that Chinese companies market abroad, including to countries of concern. Of note, some of China's major recipients of military assistance – Iran, Burma, Sudan, and Zimbabwe – are all currently subject to EU arms embargoes.

Chapter Five
Force Modernization Goals and Trends

"We should draw on the experiences in new military changes of the world and seize the opportunities to achieve leapfrog development in national defense and army modernization."

- President Hu Jintao

"We should achieve developments by leaps and bounds in the modernization of weaponry in our armed forces."

- General Li Jinai

Overview

China has stated its intentions and allocated resources to pursue a broad-based military build-up encompassing force-wide professionalization; improved training; more robust, realistic joint exercises; and the accelerated acquisition of modern weapons. The Intelligence Community estimates, however, that China will take until the end of this decade or later for its military modernization program to produce a modern force capable of defeating a moderate-size adversary. Recognizing this deficiency, China's leaders have placed a near-term emphasis on asymmetric programs and systems to leverage China's advantages while exploiting the perceived vulnerabilities of potential opponents – so-called Assassin's Mace (sha shou jian) programs.

As China's military expansion proceeds, its military forces seem focused on preventing Taiwan independence while preparing to compel the island to negotiate a settlement on Beijing's terms. As part of this effort, China seeks to deter or counter third-party intervention in any future cross-Strait crises. China's approach to dealing with Taiwan centers on developing what the 2006 QDR refers to as disruptive capabilities: forces and operational concepts aimed at preventing an adversary from deploying military forces to forward operating locations, and/or rapidly destabilizing critical military balances. It is the combination of weapons employed in coordinated operations that pose a disruptive threat, not individual technologies or new capabilities.

For example, evidence suggests the PLA is engaged in a sustained effort to interdict, at long ranges, aircraft carrier and expeditionary strike groups that might deploy to the western Pacific. Following the experience of U.S. intervention with carrier battle groups during the 1995 and 1996 Taiwan Strait crises, evidence suggests the Chinese military has invested in research, development, and technology acquisition oriented on anti-carrier operations. Similarly, China's placement of long-range SAM systems capable of providing coverage over Taiwan's airspace, combined with expansion of SRBM and amphibious forces, is introducing a destabilizing capability.

Consequently, as PLA modernization progresses, there are twin misperceptions that may lead to miscalculation or crisis. First, other countries



Figure 5. *China's Military Regions*

may underestimate the extent to which Chinese forces have improved. Second, China's leaders may overestimate the proficiency of their forces by assuming that new systems are fully operational, adeptly operated, adequately supplied and maintained, and well integrated with existing or other new capabilities.

Emerging Area Denial Capability

China is developing forces and concepts focused on denying an adversary the ability to deploy to locations from which it can conduct military operations. Increasingly, China's area denial forces overlap, providing multiple layers of offensive capability.

PLA planners are focused on targeting surface ships and submarines at long ranges. Analysis of current and projected force structure improvements suggest that in the near term, China is seeking the capacity to hold surface ships at risk through a layered defense that reaches out to the "second island chain." China has expressed interest in developing naval anti-access capabilities that use a comprehensive C4ISR network to direct and coordinate naval, air, space, and missile forces.

One area of apparent investment involves the pursuit of medium-range ballistic missiles, an extensive C4ISR system for geo-location of targets, and onboard guidance systems for terminal homing to strike surface ships on the high seas or their

onshore support infrastructure. This capability would have particular significance for regional stability, owing to the preemptive and coercive options that it would provide China's leaders.

A layered system to achieve local sea denial would also employ submarines, maritime strike aircraft, and modern surface combatants equipped with anti-ship cruise missiles (ASCMs). China's development of numerous varieties of mines, its acquisition of the KILO, SONG, and YUAN-class diesel submarines, and development of the SHANG-class SSN illustrate the importance the PLA is placing on undersea warfare in its pursuit of sea denial. The purchase of two new Russian SOVREMENNYY II-class DDGs and indigenous production of the LUYANG I/ LUYANG II DDGs equipped with long-range ASCM and SAM systems demonstrate a continuing emphasis on improving anti-surface warfare capabilities combined with mobile, wide-area air control.

China also appears to be emphasizing an anti-access role for its air forces. The PLA Navy Air Force (PLANAF), for instance, has recently purchased Russian Su-30MK2 fighters armed with AS-17/ KH-31A anti-ship missiles. The acquisition of IL-78/MIDAS and development of the indigenous B-6U refueling aircraft, integrated with strike aircraft armed with precision strike munitions will extend operational range for PLAAF and PLANAF aircraft, increasing the threat to surface and air forces at considerable distances off China's coasts. Additionally, Chinese acquisition of UAVs, including the Israeli HARPY and indigenous systems, provides additional options for long-range reconnaissance and strike.

Land-attack cruise missiles (LACMs), such as the DH-10 now under development, or special operations forces could be used to attack regional land bases. Strike aircraft, enabled by aerial refueling, could engage distant land targets using air-launched cruise missiles equipped with a variety of terminal homing warheads.

Chinese military analysts have concluded from studying U.S. and Coalition military operations over the last 15 years that logistics and mobilization are potential vulnerabilities in modern warfare, given the increased requirements for precisely coordinated transportation, communications, and logistics networks. PLA writings suggest a successful computer network attack against these systems could have a disruptive effect on an adversary's ability to generate its forces.

Strengthened Nuclear Deterrence

China is qualitatively and quantitatively improving its long-range nuclear missile force. China is pursuing strategic forces modernization to provide a credible, survivable nuclear deterrent and counterstrike capability in response to its perception of an increasingly complex nuclear security environment. The PLA Second Artillery is fielding mobile, more survivable missiles capable of targeting the United States, Japan, India, Russia, and other targets in Asia and the rest of the world. It currently deploys approximately 20 silo-based, liquid-fueled CSS-4 ICBMs, which constitute its primary nuclear means of holding continental U.S. targets at risk. In addition, it maintains approximately 20 liquid-fueled, limited range CSS-3 ICBMs that enable it to attack targets in the Asia region. China's "theater" nuclear force is made up of the CSS-2 IRBMs and solid-propellant, road-mobile CSS-5 MRBMs.

In its 2004 Defense White Paper, China declared that its nuclear strike forces have two missions: deterrence of a nuclear attack and nuclear retaliation. Beijing has consistently stated its adherence to a "no first use" nuclear doctrine,

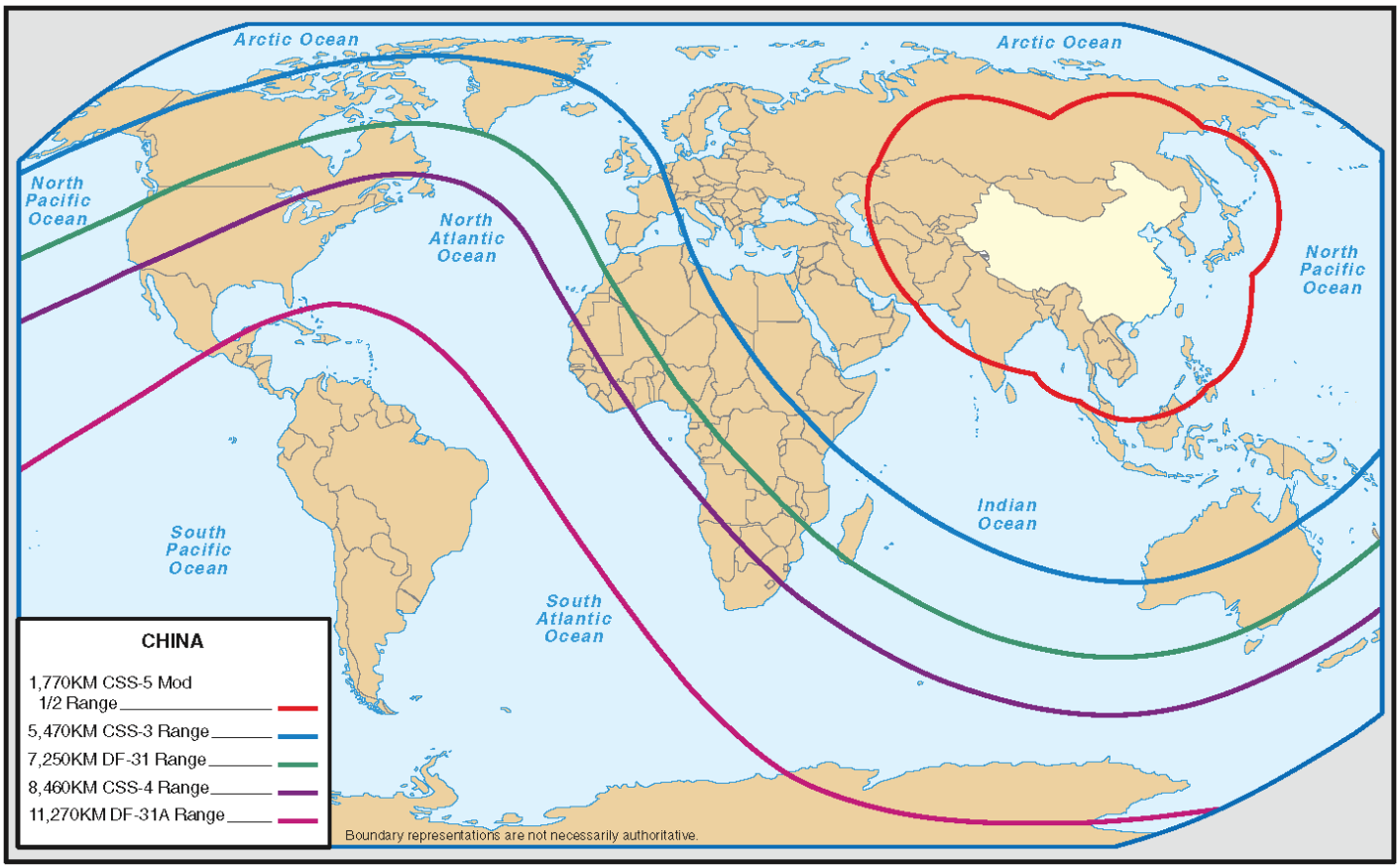


Figure 6. *Medium and Intercontinental Range Ballistic Missiles.*
Note: China currently is capable of targeting its nuclear forces throughout the region and most of the world, including the continental United States. Newer systems, such as the DF-31, DF-31A, and JL-2, will give China a more survivable nuclear force.

which is that China will never use nuclear weapons first against a nuclear weapons state, nor will China use or threaten to use nuclear weapons against any non-nuclear weapons state or nuclear-free zone. Additional missions for China's nuclear forces include deterrence of conventional attacks against the Chinese mainland, reinforcing China's great power status, and increasing its freedom of action by limiting the extent to which others can coerce China.

By 2010, China's strategic nuclear forces will likely comprise a combination of enhanced silo-based CSS-4 ICBMs; CSS-3 ICBMs; CSS-5 MRBMs; solid-fueled, road-mobile mobile DF-31 (IOC in 2006) and DF-31A ICBMs (IOC 2007); and sea-based JL-1 and JL-2s SLBMs (IOC 2007-10).

Besides expanding China's inventory of nuclear ICBMs, the mobility of the new DF-31 and DF-31A ICBMs will make China's ICBM force more survivable. The JL-2 SLBM deployed aboard the JIN-class (Type 094) SSBN will provide China with an additional, survivable nuclear option. China will deploy several new conventional and nuclear variants of MRBMs and IRBMs for regional contingencies and to augment its long-range missile forces. China is also developing air- and ground-launched cruise missiles that could have a nuclear capability.

Building Capacity for Precision Strike

PLA planners have observed the primacy of precision strike in modern warfare and are investing in both the offensive and defensive elements of

this emerging regime. China is pursuing an array of improved ISR assets ranging from UAVs, constellations of various satellites, and more "informationalized" special operations forces. Such forces could provide targeting data for long-range precision strikes when linked by more robust communications systems.

The PLA envisions the use of precision strike to hold at risk such targets as western Pacific airbases,

The "No First Use" Debate

China's 1998 White Paper on National Defense states, "from the first day it possessed nuclear weapons, China has solemnly declared its determination not to be the first to use such weapons at any time and in any circumstances, and later undertook unconditionally not to use or threaten to use nuclear weapons against non-nuclear-weapon states or nuclear-weapons-free zones." However, recent high-profile Chinese statements suggest that this policy may be under discussion.

On July 14, 2005 Major General Zhu Chenghu, Dean of the International Fellows Program at China's National Defense University (NDU) stated that "if the Americans draw their missiles and position-guided ammunition [sic] onto the target zone on China's territory, I think we will have to respond with nuclear weapons." While Chinese officials reiterated their "no first use" policy and indicated that MG Zhu's statements were strictly his personal opinion, his statements may be a window into periodic, and potentially ongoing, debates among Chinese military and civilian academics over the viability of China's longstanding "no first use" policy based on a quantitatively small nuclear arsenal.

In a September 2005 article in a Hong Kong journal reported to have close ties to the PLA, the author stated that "China's conservative and restrained nuclear strategy . . . [is] no longer capable of defending China's core national interests . . . China's nuclear strategy needs to be changed and renovated." While affirming "no first use," Chu Shulong, from the prestigious Qinghua University, also stated in a July 2005 interview printed in state-owned media that "if foreign countries launch a full-scale war against China and deploy all types of advanced weapons except nuclear weapons, China may renounce this commitment [to no first use] at a time when the country's fate hangs in the balance." Shen Dingli of Fudan University in Shanghai, further echoes this theme of necessity trumping stated policy in his article entitled "Nuclear Deterrence in the 21st Century" in the Autumn 2005 issue of China Security. He writes, "If China's conventional forces are devastated, and if Taiwan takes the opportunity to declare de jure independence, it is inconceivable that China would allow its nuclear weapons to be destroyed by a precision attack with conventional munitions, rather than use them as a true means of deterrence."

China's stated nuclear posture remains reactive and there is no evidence that this doctrine has actually changed. China's September 2005 White Paper entitled China's Arms Control, Disarmament, and Nonproliferation reiterated "no first use" as the core of China's strategic policy. China's senior leadership assured Secretary of Defense Rumsfeld during his October 2005 visit that its policy of "no first use" will not change. Nevertheless, this issue has been and will continue to be debated in China. It remains to be seen, however, how the introduction of more capable and survivable nuclear systems in greater numbers, will shape the terms of this debate or affect Beijing's thinking about its nuclear options in the future.

ports, surface combatants, land-based C4ISR and air defense systems, and command facilities. Most of the PLA units associated with precision strike are rapid reaction units and/or those that would likely lead any contingency operation around the mainland periphery.

- ***Short-Range Ballistic Missiles (SRBMs) (conventionally armed).*** China's SRBM force constitutes the bulk of its precision strike capability. Its first-generation SRBMs do not possess true "precision strike" capability, but later generations have greater ranges and improved accuracy. According to DIA estimates as of late 2005, China's SRBM force totaled some 710-790 missiles, increasing at an average rate of about 100 missiles per year.

- ***Land-Attack Cruise Missiles (LACMs) (conventionally armed).*** China is developing LACMs to achieve greater precision than historically available from ballistic missiles for hard-target strikes, and increased standoff. A first- and second-generation LACM remain under development. There are no technological bars to placing a nuclear payload on these systems, once developed.

- ***Air-to-Surface Missiles (ASMs).*** China is believed to have a small number of tactical ASMs, and is pursuing foreign and domestic acquisitions to improve airborne anti-ship capabilities.

- ***Anti-Ship Cruise Missiles (ASCMs).*** The PLA Navy and PLANAF have or are acquiring nearly a dozen varieties of ASCMs, from the 1950s-era CSS-N-2/STYX to the modern Russian-made SS-N-22/SUNBURN and SS-N-27B/SIZZLER. The pace of indigenous ASCM research, development, and production – and of foreign procurement – has accelerated over the past decade.

- ***Anti-Radiation Weapons (ARMs).*** The size and scope of China's inventory of anti-radiation weapons – designed to acquire targets based on the targets' own radar emissions – remains unknown. The PLA has imported both the Israeli-made HARPY UAV and Russian-made anti-radiation missiles.

- ***Precision Artillery.*** The PLA is deploying increasingly long-range multiple rocket launcher (MRL) systems, including the A-100 300 mm MRL with a 100+ km range and developing the WS-2 400 mm MRL with a 200 km range. Additional precision-guided artillery munitions are being fielded or are under development.

Improving Expeditionary Operations

PLA expeditionary forces include three airborne divisions, two amphibious infantry divisions, two marine brigades, about seven special operations groups, and one regimental-size reconnaissance element in the Second Artillery. The capabilities of these units are steadily improving with the introduction of new equipment, improved unit-level tactics, and greater coordination of joint operations.

In addition to amphibious assaults, missions for these forces could include: special operations to facilitate amphibious operations and disrupt communications nodes, air defense and the movement of reserve forces reacting to amphibious operations; airborne assaults to seize airfields for follow-on infantry forces; and, reconnaissance to provide targeting information and battle damage assessments.

PLA ground forces in the Nanjing and Guangzhou Military Regions have received upgraded amphibious armor and other vehicles, such as tanks and armored personnel carriers, and may deploy additional armored vehicles and air-cushioned troop

vehicles to improve lethality and speed for seaborne assaults. Airborne forces will likely receive priority use of the newly purchased IL-76/CANDIDs from Russia, and may acquire modern, armored vehicles that can be airdropped. The quality and quantity of army aviation training has increased in recent years. Army aviation regiments actively study and explore new fighting tactics and training methods to increase their joint operations capability.

Socialization of Logistics

China's logistics reform features the integration of the civil sector with the military procurement system as a modern adaptation of "People's War." Under this concept, the PLA will acquire common and dual-use items on the market. Increasing numbers of logistics functions will be outsourced, especially when civilian industry can perform similar functions at lower costs. In addition, the PLA is placing greater emphasis on the mobilization of the civilian economy, both in peacetime and in war, to support national defense requirements.

The PLA has increased amphibious ship production to address its lift deficiencies; however, the Intelligence Community believes these increases alone will be inadequate to meet requirements. The PLA is also organizing its civilian merchant fleet and militia, which, given adequate notification, could augment organic lift in amphibious operations. Transport increases were accompanied by an increase of 25,000 troops, 200 tanks and 2,300 artillery pieces in the military regions opposite Taiwan, according to the latest figures from DIA. The increased troops and equipment in these military regions all appear capable of participating in expeditionary operations.

Expanding Air Defense

The PLA has shifted from point defense of key military, industrial, and political targets to a new Joint Anti-Air Raid Campaign doctrine based on a modern, integrated air defense system capable of effective offensive counter-air (OCA) and defensive counter-air (DCA). Under this doctrine, the PLA will use aircraft, surface-to-surface missiles, long-range artillery, special operations forces, naval forces, and guerrilla units to destroy an enemy's ability to conduct offensive air operations and provide comprehensive defense of PRC airspace.

The most important aspect of the PLA's air defense development has been the acquisition and fielding of advanced, Russian-made SA-10 and SA-20 SAM systems and their placement along the Taiwan Strait. The PLA is also working to reverse-engineer a domestic variant of the SA-10 (the HQ-9) of equal capability. This year, the PLA is expected to field the extended range S-300PMU2, which will allow the Chinese to engage targets over Taiwan airspace.

The PLA Navy is acquiring new SOVREMENNYY II-class DDGs and LUYANG I/LUYANG II-class DDGs, which are scheduled to deploy with modern, long-range SAMs. These SAMs could form the basis for a mobile, sea-based air defense network to facilitate acquiring local air superiority during maritime operations.

In addition to these advanced missile systems, Beijing has acquired and deployed Russian-built and domestic fourth-generation tactical aircraft (e.g., Su-27 and Su-30 FLANKER variants, and the PLA's indigenous F-10). Newer aircraft equipped with advanced air-to-air missiles and electronic warfare technology give the PLAAF technological parity with or superiority over most potential adversaries.

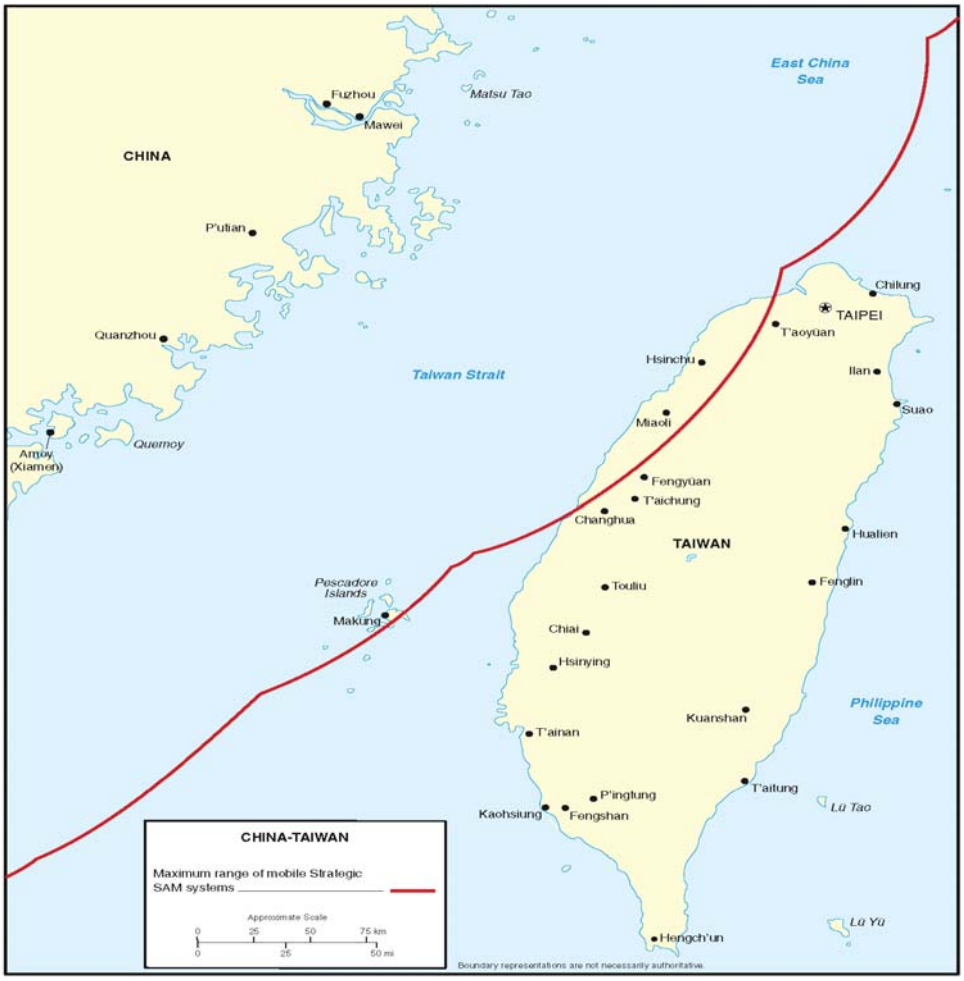


Figure 7. *Surface-to-Air Missile Coverage over the Taiwan Strait.*
Note: This map depicts notional coverage provided by China's SA-10, SA-20 SAM systems, as well as the soon-to-be acquired S-300PMU2. Actual coverage would be non-contiguous and dependent upon precise deployment sites.

Extended-Range Maritime Presence

Previously, China did not have the capability to maintain anything but symbolic naval presence on the approaches to the mainland. The PLA Navy, however, appears interested in expanding its presence through the Straits of Malacca and into the Indian Ocean. In 2005 Chinese naval vessels visited Pakistan, and for the first time conducted combined naval maneuvers outside their home waters.

At present, China's concept for sea denial appears limited to sea control in waters surrounding Taiwan and its immediate periphery. If China were to shift to a broader "sea control" strategy, the primary indicators would include: development of an aircraft carrier, development of robust, deep water anti-submarine warfare capabilities, development of a true area anti-air warfare capability, acquisition of large numbers of nuclear attack submarines, development of effective maritime C4ISR, and increased open water training.

Space and Counterspace Developments

China has accorded building a modern ISR architecture a high priority in its comprehensive military modernization, in particular the development of advanced space-based C4ISR and targeting capabilities. China's access to space will continue to improve as it develops newer boosters

Status of Aircraft Carrier Developments

China first began to discuss developing an indigenous aircraft carrier in the late 1970s. In 1985, China purchased the Australian carrier the HMAS Melbourne. Although the hull was scrapped, Chinese technicians studied the ship and built a replica of its flight deck for pilot training. With the demise of the Soviet Union, China purchased two former Soviet carriers – the Minsk in 1998 and the Kiev in 2000. Neither carrier was made operational; instead they were used as floating military theme parks. Nevertheless, both provided design information to PLA Navy engineers.

Attracting the most attention is China's 1998 purchase of the ex-Varyag, a Kuznetsov-class Soviet carrier only 70 percent complete at the time of the Soviet Union's collapse. Recent deck refurbishment, electrical work, fresh hull paint with PLA Navy markings, and expressed interest in Russia's Su-33 fighter have re-kindled debate on a Chinese carrier fleet. Though the PLA's ultimate intentions remain unclear, a number of possibilities exist for the Varyag:

- **First operational aircraft carrier**. Photos showing maintenance and repair on the hull and deck of the ship suggest this could be an option.
- **A training platform**. Given the difficulty and expense in overhauling the ex-Varyag, it is possible, but doubtful, the PLA would invest the resources to develop it only for training purposes.
- **A transitional platform**. The Varyag could act as a stand-in until an indigenous carrier can be completed, allowing the PLA Navy to use it as a model and gain experience.
- **Theme park**. The Varyag could be exploited for its design and then scrapped for parts, turned into a floating theme park, or used for its originally stated purchase purpose – a casino.

Regardless of Beijing's final objective for the ex-Varyag, it is facilitating PLA Navy engineers' comprehensive study of the platform's structural design, which could eventually assist China in creating its own carrier program. Some analysts in and out government predict that China could have an operational carrier by the end of the 12th Five-Year Plan (2011-2015), but others assess the earliest China could deploy an operational aircraft carrier is 2020 or beyond.

to replace the aging Long March system. Acquiring more sophisticated space systems will allow China to expand the reach of its anti-access forces and could serve as a key enabler for regional power projection.

Reconnaissance.

- China participated in the China-Brazil Earth Resources Satellite (CBERS) program with the CBERS-1 and CBERS-2 remote sensing satellites. These satellites can take 20-meter resolution images in swaths exceeding 100 kilometers, and transmit those digital images to earth stations. The program will continue with follow-on satellites CBERS-2B, CBERS-3 and CBERS-4, which reportedly increase camera resolution substantially.

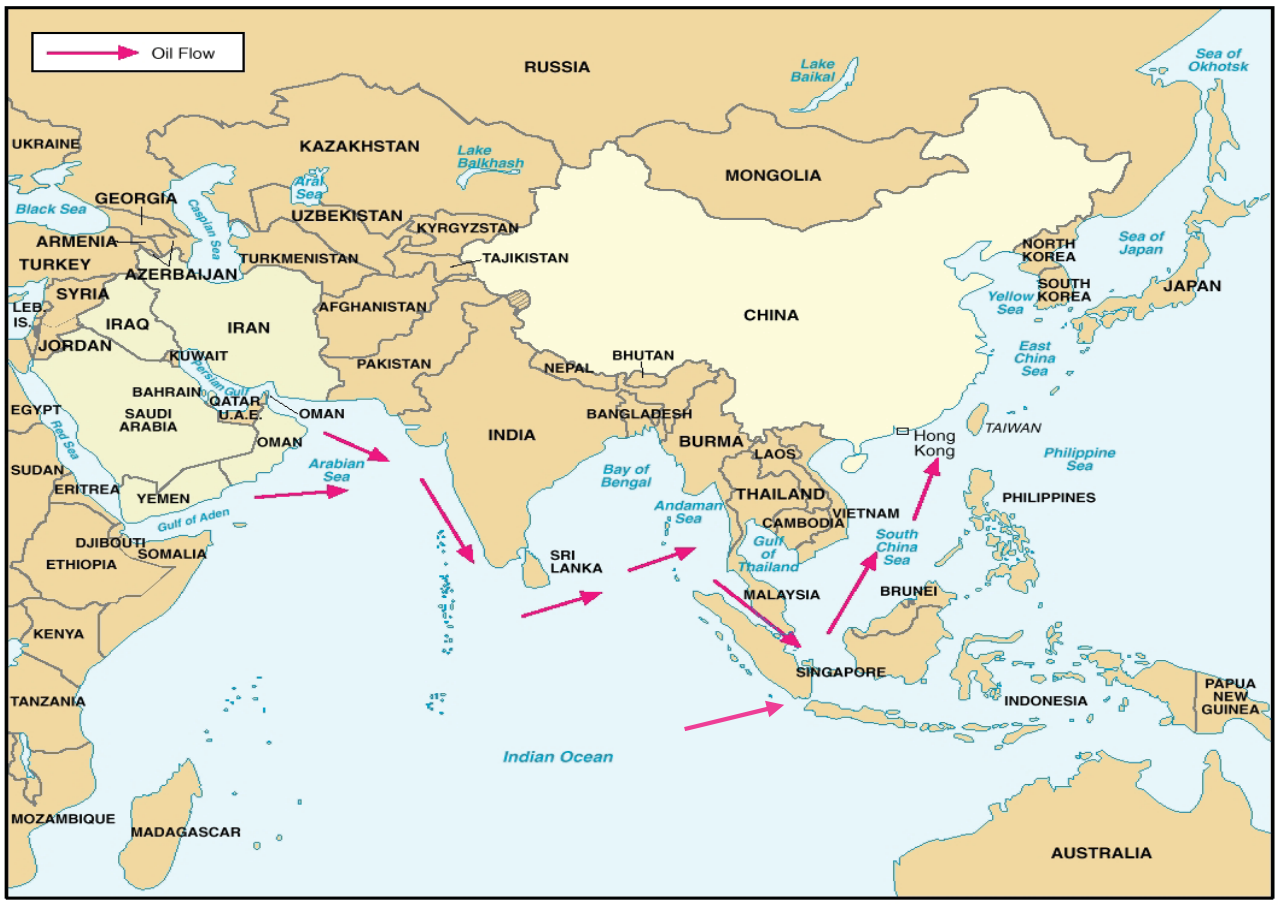


Figure 8. *China's Critical Sea Lines of Communication.*
Note: *In 2004, over 80 percent of Chinese crude oil imports transited the Straits of Malacca, with less than 2 percent transiting the Straits of Lombok.*

- China is interested in acquiring a disaster/environmental monitoring satellite constellation called Huanjing. Phase 1 of the program calls for three satellites, two of which are equipped for visible, infrared, and multi-spectral imaging while the third will possess a synthetic aperture radar (SAR) to see through weather. Phase 2 of the Huanjing program allows for eight satellites (four imaging and four SAR) in orbit simultaneously.

- In the next decade, Beijing most likely will field radar, ocean surveillance, and high-resolution photoreconnaissance satellites. China will eventually deploy advanced imagery, reconnaissance, and Earth resource systems with military applications. In the interim, China probably will supplement existing coverage with commercial SPOT, LANDSAT, RADARSAT, Ikonos, and Russian satellite imagery.

Navigation and Timing. China launched three BeiDou satellites to provide navigation coverage with an accuracy of 20 meters over China and surrounding areas. BeiDou is an active positioning system that requires transmissions between satellite and the user, slowing the time it takes a user to receive a corrected position. The BeiDou system is best suited for use by troops, ships and vehicles that move slowly. The active part of Beidou also enables leadership to send and receive secure orders. China also uses the GPS and GLONASS navigation satellite systems, and has invested in the European Union's Galileo navigation system program.

Manned Program. China launched its second manned space mission on October 12, 2005, nearly two years after its first manned space mission. The two-person crew returned safely on October 17, 2005. This was the first occasion during which Chinese astronauts performed experiments in space. Press reports indicate China will perform its first space walk in 2007, and rendezvous and docking in 2009-2012. China's goal is to have a manned space station by 2020. The success of this program to date required a substantial amount of systems integration and planning, and serves as an indicator of China's rapid and relatively smooth rise as an emerging space power.

Communications and International Contracts. China still uses foreign providers, like INTELSAT and INMARSAT, but is expanding indigenous capabilities – even marketing its technology, to include satellite development, manufacturing, and

Radio Frequency and Laser Weapon Development

Chinese technicians are working to develop several types of "new concept" weapon systems, two of which are radio frequency and laser-based systems.

Long-range beam weapons would use narrow radio frequency (RF) beams to engage targets such as aircraft or precision guided munitions (PGMs). Short-range systems would be packaged into missiles or artillery shells and launched into the vicinity of targets such as radars or command posts before releasing an RF pulse. In recent years, the application of RF weapons has expanded to include deployment on small vehicles or in suitcases for targeting critical military or civilian infrastructures where close access is possible.

PRC officials have publicly indicated their intent to acquire RF weapons as a means of defeating technologically advanced military forces. Chinese writings have suggested that RF weapons could be used against C4ISR, guided missiles, computer networks, electronically-fused mines, aircraft carrier battle groups, and satellites in orbit.

Analysis of Chinese technical literature indicates a major effort is underway to develop the technologies required for RF weapons, including high-power radiofrequency sources, prime-power generators, and antennas to radiate RF pulses. Chinese scientists are also investigating the effects of RF pulses on electronics and the propagation of these pulses through building walls and through the atmosphere. Furthermore, China appears to be assessing its own vulnerability to RF weapons and exploring ways to "harden" electronics.

China is also involved in advanced, state-of-the-art research and development in laser technologies, including both low- and high-energy lasers. While much of China's efforts are commercial in nature, the PLA and the government directly support some of this research, suggesting that discoveries or findings could be used to develop future laser weapons. Moreover, China has fielded in its own forces and marketed for sale abroad low energy laser weapons. Non-weapon military lasers are already widespread in the PLA.

launch services, to the international market. China currently has two international contracts – one with Nigeria and one with Venezuela – for the design and manufacture of communication satellites based on their Dongfanghong-4 (DFH-4) spacecraft. China may be developing a system of data relay satellites to support global coverage, and has reportedly acquired mobile data reception equipment that could support more rapid data transmission to deployed military forces and units.

Small Satellites. China is studying and seeking foreign assistance for developing small satellites. It has launched a number of them since 2000, including an oceanographic research satellite, imagery satellites, and environmental research satellites. China is also developing microsatellites – weighing less than 100 kilograms – for remote sensing and networks of electro-optical and radar satellites. These developments could allow for a more rapid reconstitution or expansion of their satellite force given any disruption in coverage.

Anti-Satellite (ASAT) Weapons. Beijing continues to pursue an offensive anti-satellite system. China can currently destroy or disable satellites only by launching a ballistic missile or space-launch vehicle armed with a nuclear weapon. However, there are many risks associated with this method, and potentially adverse consequences from the use of nuclear weapons. Evidence exists that China is improving its situational awareness in space, which will give it the ability to track and identify most satellites. Such capability will allow for the deconfliction of Chinese satellites, and would also be required for offensive actions. At least one of the satellite attack systems appears to be a ground-based laser designed to damage or blind imaging satellites.

Exploiting Information Warfare

The PLA considers active offense to be the most important requirement for information warfare to destroy or disrupt an adversary's capability to receive and process data. Launched mainly by remote combat and covert methods, the PLA could

Formation of Information Warfare Reserve and Militia Units

The Chinese press has discussed the formation of information warfare units in the militia and reserve since at least the year 2000. Personnel for such units would have expertise in computer technology and would be drawn from academies, institutes, and information technology industries. In 2003, an article in a PLA professional journal stated "coastal militia should fully exploit its local information technology advantage and actively perform the information support mission of seizing information superiority."

Militia/reserve personnel would make civilian computer expertise and equipment available to support PLA military training and operations, including "sea crossing," or amphibious assault operations. During a military contingency, information warfare units could support active PLA forces by conducting "hacker attacks" and network intrusions, or other forms of "cyber" warfare, on an adversary's military and commercial computer systems, while helping to defend Chinese networks.

The PLA is experimenting with strategy, doctrine, and tactics for information warfare, as well as integrating militia and reserve units into regular military operations. These units reportedly participate with regular forces in training and exercises.

employ information warfare preemptively to gain the initiative in a crisis.

Specified information warfare objectives include the targeting and destruction of an enemy's command system, shortening the duration of war, minimizing casualties on both sides, enhancing operational efficiency, reducing effects on domestic populations and gaining support from the international community.

The PLA's information warfare practices also reflect investment in electronic countermeasures and defenses against electronic attack (e.g., electronic and infrared decoys, angle reflectors, and false target generators.

Computer Network Operations. China's computer network operations (CNO) include computer network attack, computer network defense, and computer network exploitation. The PLA sees CNO as critical to seize the initiative and achieve "electromagnetic dominance" early in a conflict, and as a force multiplier. Although there is no evidence of a formal Chinese CNO doctrine, PLA theorists have coined the term "Integrated Network Electronic Warfare" to outline the integrated use of electronic warfare, CNO, and limited kinetic strikes against key C4 nodes to disrupt the enemy's battlefield network information systems. The PLA has established information warfare units to develop viruses to attack enemy computer systems and networks, and tactics and measures to protect friendly computer systems and networks. The PLA has increased the role of CNO in its military exercises. For example, exercises in 2005 began to incorporate offensive operations, primarily in first strikes against enemy networks.

Chapter Six
PRC Force Modernization and Security in the Taiwan Strait

"Should the Taiwan authorities go so far as to make a reckless attempt that constitutes a major incident of 'Taiwan independence,' the Chinese people and armed forces will resolutely and thoroughly crush it at any cost."

- China's National Defense in 2004

Overview

China's economic growth, growing diplomatic leverage, and improvements in the PLA's military capabilities, contrasted with Taiwan's modest defense efforts, have the effect of shifting the cross-Strait balance in Beijing's favor. Chinese air, naval, and missile force modernization is making it increasingly critical that Taiwan strengthen its defenses with a sense of urgency.

Despite this need, Taiwan defense spending has steadily declined in real terms over the past decade. Taiwan has traditionally acquired capabilities, some asymmetric, to deter an attack by making it too costly, while buying time for international intervention. The growth of PLA capabilities is outpacing these acquisitions.

The U.S. Government has made clear that it supports peaceful resolution of cross-Strait differences in a manner acceptable to the people on both sides of the Taiwan Strait, and opposes unilateral changes to the status quo. Yet Beijing's sustained military build-up in the area of the Taiwan Strait risks disrupting the status quo. Accordingly, and consistent with the provisions of the Taiwan Relations Act, Public Law 96-8, (1979), the United States is taking steps to help maintain peace, security, and stability in the region by offering for sale to Taiwan defensive systems to correct imbalances in the areas of air and missile defense, and anti-submarine warfare. These systems – Patriot PAC-III air defense systems, P-3C Orion anti-submarine aircraft, and diesel attack submarines – were included in the original Special Budget (the PAC-IIIs have since been removed), which remains before the Taiwan Legislative Yuan, as it has since 2004. Simultaneously, the Department of Defense, through the transformation of U.S. Armed Forces and global force posture realignments, is maintaining the capacity to resist any effort by Beijing to resort to force or coercion to dictate the terms of Taiwan's future status.

China's Strategy in the Taiwan Strait

Beijing appears prepared to defer unification as long as it sees the tendency of events to advance that goal, or the costs of conflict as outweighing the benefits. The mainland employs all instruments of power – political, economic, cultural, legal, diplomatic, and military – at its disposal in a coercive strategy aimed at resolving the Taiwan issue in its favor. In the near term, Beijing's focus is on preventing Taiwan from moving toward de jure independence. However, China is unwilling to rule out the use of force to achieve this objective.

China continues to offer a peaceful resolution under the "one country, two systems" framework that would provide Taiwan a degree of autonomy in exchange for its unification with the mainland. China's military expansion and ongoing deployment of some 710-790 short range ballistic missiles, enhanced amphibious warfare capabilities, and modern, long-range anti-air systems opposite Taiwan are reminders, however, of Beijing's unwillingness to renounce the use of force. China sees the threat of force as an integral part of its overall policy to dissuade Taiwan from pursuing independence and pressuring it to unite with the mainland. Beijing, in its March 2005 "anti-secession law," codified this threat and attempted to legitimize it through legal instruments, as part of what some Chinese military strategists refer to as "legal warfare."

China's "Legal Warfare"

Chinese military strategists are taking an increasing interest in international law as an instrument of policy in a conflict. Some PLA thinkers believe law can be used as a weapon to deter adversaries prior to combat. For example, in a Taiwan Strait context, China could launch a concerted information campaign to portray third-party intervention as illegitimate and outside of international legal norms.

China is also pursuing a global effort to shape international opinion on issues related to interpretation and application of the UN Convention on the Law of the Sea. By a series of scholarly articles and organized symposia, China has sought to shift scholarly opinion and the perspective of national governments away from interpretations of maritime law that favor freedom of navigation and toward interpretations of increased sovereign authority and control over the full 200 nautical mile Exclusive Economic Zone and the airspace above it. This is an assertion of claims and rights in the maritime domain that could enhance the legitimacy of coercive Chinese operations at sea.

The circumstances in which Beijing has historically claimed it would use force against the island include: a formal declaration of independence by Taipei; undefined moves "toward independence;" foreign intervention in Taiwan's internal affairs; indefinite delays in the resumption of cross-Strait dialogue; Taiwan's acquisition of nuclear weapons; and internal unrest on Taiwan. These circumstances are not fixed and have evolved over time in response to Taiwan's declarations about its political status and other actions, changes in China's own military capabilities, and Beijing's view of other countries' relations with Taiwan. China's "red lines" are vague, which allows Beijing to determine the nature, timing, and form of its response.

Beijing's Options for Action against Taiwan

The PLA is developing capabilities that will enable it to pursue several courses of action against Taiwan, allowing Beijing to apply pressure more flexibly against the island and, it believes, minimize the risks of confrontation with the United States. The PLA is simultaneously developing the capability to deter and/or slow third party, including U.S., intervention to assist Taiwan; to defeat such intervention in an asymmetric, limited, quick war; or, fight to a standstill and pursue a protracted conflict.

Persuasion and Coercion. With increased economic links, Beijing enjoys increased influence on Taiwan. It seeks to attract Taiwan investment in the mainland, while emphasizing that peace in the Strait will bring prosperity. At the same time, accelerating

economic integration with the mainland also makes Taiwan increasingly subject to Chinese economic leverage. Beijing is Taipei's largest trading partner, Taipei's largest destination for exports and foreign direct investment, and the production site for many of Taipei's most profitable information technology exports. Beijing is attempting to exploit these ties to press Taiwan businessmen operating on the mainland to refrain from openly supporting "pro-independence" parties or individuals on Taiwan.

Beijing has also intensified its campaign to further constrain Taiwan's international profile. It competes with Taiwan in the developing world for diplomatic recognition and prioritizes its activities in these regions to erode support among Taiwan's 25 remaining diplomatic partners. In October 2005, Senegal became the latest nation to switch recognition to Beijing. China simultaneously employs diplomatic and commercial levers, including its seat on the UN Security Council, to increase pressure on other states to limit their relationships with Taiwan and discourage it from making any moves toward de jure independence.

The sustained military threat to Taiwan serves as an important backdrop to the overall political, economic, and diplomatic campaign of persuasion and coercion. Exercises, deployments, and media operations all contribute to the creation of an environment of intimidation.

Limited Force Options. A campaign employing limited force options could include computer network attacks against Taiwan's political, military, and economic infrastructure to undermine the Taiwan population's confidence in its leadership. PLA special operations forces infiltrated into Taiwan could conduct acts of economic, political, and military sabotage. Beijing might also believe that it could use small numbers of coordinated SRBM, special operations forces, and air strikes against air fields, radars, and communications facilities on Taiwan as "non-war" uses of force to try to push the Taiwan leadership toward accommodation. Beijing might erroneously view such "non-war" uses of forces as a complement to non-military coercion and believe that such strikes would not trigger a response from either Taiwan or third parties. Resort to such uses of force could quickly risk escalation to a full-fledged military conflict.

Air and Missile Campaign. Surprise SRBM attacks and precision air strikes could support a campaign designed to degrade Taiwan defenses, neutralize its military and political leadership, and break its will to fight before the United States and other nations could intervene. To attempt these effects, China could employ SRBMs to saturate Taiwan's air defense system, including air bases, radar sites, missiles, and communications facilities.

Blockade. Beijing could threaten or deploy a naval blockade either as a "non-war" pressure tactic in the pre-hostility phase or as a transition to active conflict. On one end of the spectrum, Beijing could declare that ships en route to Taiwan ports must stop in mainland ports for inspections prior to transiting on to Taiwan. Alternatively, China could attempt the equivalent of a blockade of Taiwan ports by declaring exercise or missile closure areas in approaches and roadsteads to ports to divert merchant traffic, which China did with its 1995-96 missile firings and live-fire exercises. Chinese doctrine also includes activities such as air blockades, missile attacks, and mining or otherwise obstructing harbors and approaches.

More traditional methods of blockade would increase the impact on Taiwan, but also would tax PLA Navy capabilities and raise the potential for direct military confrontation. Any attempt to limit maritime traffic to and from Taiwan, whether loose or more restrictive, would likely

violate international law, trigger countervailing international pressure, and could lead to a more protracted conflict and the serious risk of military escalation. Although such restrictions would have an immediate economic impact, they would take time to realize decisive political results, diminishing the ultimate effectiveness and inviting certain international reaction.

Amphibious Invasion. Publicly available Chinese writings on amphibious campaigns offer different strategies for an amphibious invasion of Taiwan. The most prominent of them describe what it called the Joint Island Landing Campaign. The objective of a Joint Island Landing Campaign is to break through or circumvent shore defenses, establish and build a beachhead, and then launch an attack to split, seize and occupy the entire island or important targets on the island. To achieve the final objective of the Joint Island Landing Campaign, a series of sub-campaigns, such as electronic warfare, naval, and air campaigns – including the underlying logistics and mobilization – must be executed.

Amphibious operations are logistics-intensive and rely for success upon air and sea superiority in the vicinity of the operation, the rapid build-up of supplies and sustainment on shore, and an uninterrupted flow of support thereafter. The Joint Island Landing Campaign would tax the lift capacities of China's armed forces and maritime militia, posing challenges to those charged with

Factors of Deterrence

China is deterred from taking military action against Taiwan on two levels. China does not yet possess the military capability to accomplish with confidence its political objectives on the island, particularly when confronted with outside intervention. Beijing is also deterred by the potential political and economic repercussions of any use of force against Taiwan. China's leaders recognize that a war could severely retard economic development. Taiwan is China's single largest source of foreign direct investment. An extended campaign would wreck Taiwan's economic infrastructure, leading to high reconstruction costs. International sanctions against Beijing, either by individual states or by groups of states, could severely damage Beijing's economic development. An insurgency against the occupation could tie up substantial forces for years.

According to the Intelligence Community, China would have difficulty protecting its vital sea lines of communication while simultaneously supporting blockade or invasion operations against the island. Conflict with Taiwan also could lead to instability on the mainland. Maintaining internal security in wartime appears to be an important consideration in PLA planning – reflecting leadership concerns about political stability. A conflict also would severely hurt the image China has sought to project regionally and globally in the post-Tiananmen years. If Beijing chose to use force against Taiwan prior to the 2008 Olympics, China would almost certainly face a boycott or loss of the games. Finally, Beijing's planning must calculate the virtual certainty of U.S. intervention, and Japanese interests, in any conflict in the Taiwan Strait. It views the United States, especially in combination with Japan, as having advantages over China in many scenarios involving the use of military force. China's leaders also calculate a conflict over Taiwan involving the United States would give rise to a long-term hostile relationship between the two nations – a result that would not be in China's interests.

providing sustainment for, and the commanders charged with leading, this campaign. Add to these strains the combat attrition of China's forces, and an amphibious invasion of Taiwan would be a significant political and military risk for China's leaders.

The PLA's prospects in an invasion of Taiwan would hinge on establishing persistent air superiority over the Strait and Taiwan, the availability of amphibious and air lift, attrition rates, interoperability of PLA forces, the ability of China's logistics system to support the necessarily high tempo of operations, Taiwan's will to resist, and the speed and scale of international intervention.

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Appendix
China and Taiwan Forces Data

Taiwan Strait Military Balance, Ground Forces			
	China		Taiwan
	Total	Taiwan Strait Area	Total
Personnel (Active)	1.4 million	400,000	130,000
Group Armies	18	8	3
Infantry Divisions	25	9	0
Infantry Brigades	33	12	13
Armor Divisions/Brigades	9	4	0
Armor Brigades	11	4	5
Artillery Divisions	3	3	0
Artillery Brigades	15	5	3+
Marine Brigades	2	2	2
Tanks	7,000	2,700	1,800
Artillery Pieces	11,000	3,200	3,200

Note: The PLA active ground forces are organized into Group Armies. Infantry, armor, and artillery units are organized into a combination of divisions and brigades deployed throughout the PLA's seven Military Regions (MRs). A significant portion of these assets are deployed in the Taiwan Strait area, specifically the Nanjing, Guangzhou, and Jinan military regions. Figures for the Taiwan Strait area do not include the 15th Airborne Corps and garrison units. In 2004, Taiwan began transforming motorized rifle and armored infantry brigades to mechanized infantry. Taiwan has seven Defense Commands, three of which have Group Armies. Each Army contains an Artillery Command roughly equivalent to a brigade plus.

Figure 9.



Figure 10. *Major Ground Force Units*

Taiwan Strait Military Balance, Air Forces			
China			Taiwan
Aircraft	Total	Within range of Taiwan	Total
Fighters	1,525	425	330
Bombers	775	275	0
Transport	450	75	40

Note: The PLAAF and PLANAF have a total of around 2,300 operational combat aircraft: air defense and multi-role fighters, ground attack aircraft, fighter-bombers, and bombers. An additional 470 older fighters and bombers are assigned to PLA flight academies or R&D. The two air arms also possess approximately 450 transports and over 90 surveillance and reconnaissance aircraft with photographic, surface search, and airborne early warning sensors. The majority of PLAAF and PLANAF aircraft are based in the eastern part of the country. Currently, more than 700 aircraft could conduct combat operations against Taiwan without refueling.

Figure 11.



Figure 12. *Major Air Force Units*

Taiwan Strait Military Balance, Naval Forces			
	China		Taiwan
	Total	East and South Sea Fleets	Total
Destroyers	25	16	2
Frigates	45	40	22
Tank Landing Ships	25	22	12
Medium Landing Ships	25	20	4
Diesel Submarines	50	28	4
Nuclear Submarines	5	0	0
Coastal Patrol (Missile)	45	34	50

Note: The PLA Navy has a large fleet that includes 75 principal combatants, 55 submarines, some 50 medium and heavy amphibious lift ships, and about 45 coastal missile patrol craft. In the event of a major Taiwan conflict, both fleets would be expected to participate in direct action against the Taiwan Navy. The North Sea Fleet would be responsible primarily for protecting Beijing and the northern coasts, but could provide mission critical assets to support the other fleets. Taiwan most likely decommissioned its remaining Gearing-class destroyers before the arrival of replacement KIDD-class destroyers. Two of the four in-bound KIDDs arrived in December 2005 and are not yet operational. The remaining KIDDs are scheduled for delivery in 2006-2007.

Figure 13.



Figure 14. *Major Naval Units*

China's Missile Forces		
China's Missile Inventory Total	**Launchers/ Missiles**	**Estimated Range**
CSS-4 ICBM	20/20	8,460+ km
CSS-3 ICBM	10-14/20-24	5,470+ km
CSS-2 IRBM	6-10/14-18	2,790+ km
CSS-5 MRBM Mod 1/2	34-38/19-50	1,770+ km
JL-1 SLBM	10-14/10-14	1,770+ km
CSS-6 SRBM	70-80/275-315	600 km
CSS-7 SRBM	100-120/435-475	300 km
JL-2 SLBM	DEVELOPMENTAL	8,000+ km
DF-31 ICBM	DEVELOPMENTAL	7,250+ km
DF-31A ICBM	DEVELOPMENTAL	11,270+ km
Note: China's SRBM force has grown significantly in the past few years. China's Second Artillery maintains at least five operational SRBM brigades; another brigade is deployed with the PLA ground forces garrisoned in the Nanjing Military Region. All of these units are deployed to locations near Taiwan.		

Figure 15.