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Military and Security Developments Involving the People's Republic of China 2010

Office of the Secretary of Defense

Military and Security Developments Involving the People's Republic of China
2010

A Report to Congress
Pursuant to the National Defense Authorization Act for
Fiscal Year 2010

Section 1246, "Annual Report on Military and Security Developments Involving the People's Republic of China," of the National Defense Authorization Act for Fiscal Year 2010, Public Law 111-84, which amends the National Defense Authorization Act for Fiscal Year 2000, Section 1202, Public Law 106-65, provides that the Secretary of Defense shall submit a report "in both classified and unclassified form, on military and security developments involving the People's Republic of China. The report shall address the current and probable future course of military-technological development of the People's Liberation Army and the tenets and probable development of Chinese security strategy and military strategy, and of the military organizations and operational concepts, through the next 20 years. The report shall also address United States-China engagement and cooperation on security matters during the period covered by the report, including through United States-China military-to-military contacts, and the United States strategy for such engagement and cooperation in the future."

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Executive Summary

Over the past 30 years, China has made great progress in its pursuit of economic growth and development, which has allowed China to achieve higher living standards for the Chinese people and has increased China's international profile. These economic achievements, combined with progress in science and technology, have also enabled China to embark on a comprehensive transformation of its military. The pace and scope of China's military modernization have increased over the past decade, enabling China's armed forces to develop capabilities to contribute to the delivery of international public goods, as well as increase China's options for using military force to gain diplomatic advantage or resolve disputes in its favor.

Earlier this decade, China began a new phase of military development by articulating roles and missions for the People's Liberation Army (PLA) that go beyond China's immediate territorial interests. Some of these missions and associated capabilities have allowed the PLA to contribute to international peacekeeping efforts, humanitarian assistance and disaster relief, and counter-piracy operations. The United States recognizes and welcomes these contributions. Other investments have allowed the PLA to pursue anti-access and area-denial strategies. Still others appear designed to improve the PLA's ability for extended-range power projection, although China's ability to sustain military power at a distance, today, remains limited. As the 2010 Quadrennial Defense Review Report notes, "China is developing and fielding large numbers of advanced medium-range ballistic and cruise missiles, new attack submarines equipped with advanced weapons, increasingly capable long-range air defense systems, electronic warfare and computer network attack capabilities, advanced fighter aircraft, and counter-space systems."

Cross-Strait economic and cultural ties continued to make important progress in 2009. Despite these positive trends, China's military build-up opposite the island continued unabated. The PLA is developing the capability to deter Taiwan independence or influence Taiwan to settle the dispute on Beijing's terms while simultaneously attempting to deter, delay, or deny any possible U.S. support for the island in case of conflict. The balance of cross-Strait military forces continues to shift in the mainland's favor.

The PLA has made modest improvements in the transparency of China's military and security affairs. However, many uncertainties remain regarding how China will use its expanding military capabilities. The limited transparency in China's military and security affairs enhances uncertainty and increases the potential for misunderstanding and miscalculation.

As President Obama has said, "[the U.S.-China] relationship has not been without disagreement and difficulty. But the notion that we must be adversaries is not pre-destined." Sustained and reliable U.S.-China military-to-military relations support this goal by reducing mistrust, enhancing mutual understanding and broadening cooperation. China's recurring decision to suspend military exchanges has impeded this effort. The Department of Defense will continue to use its interactions with China to encourage it to play a constructive role in addressing common security challenges in Asia and globally. At the same time, the Department of Defense has a special responsibility to monitor China's military and to deter conflict. Through force posture, presence, capability developments, and actions to strengthen alliances and partnerships, the Department of Defense demonstrates the United States' will and ability to maintain peace and stability in the Asia-Pacific.

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Glossary of Acronyms

AAV: Amphibious Assault Vehicle

AEW&C: Airborne Early Warning and Control

APCSS: Asia Pacific Center for Security Studies

ASAT: Anti-Satellite

ASBM: Anti-Ship Ballistic Missile

ASCM: Anti-Ship Cruise Missile

bcm: billion cubic meters

b/d: barrels per day

C4ISR: Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance

CCP: Chinese Communist Party

CMC: Central Military Commission

CNO: Computer Network Operations

COMSAT: Communications Satellite

CONUS: Continental United States

DCT: Defense Consultative Talks

DDG: Guided-Missile Destroyer

DPCT: Defense Policy Coordination Talks

DSS: Defense Security Service

DSTL: Developing Sciences and Technologies List

EEZ: Exclusive Economic Zone

EU: European Union

FAO: Foreign Affairs Office

FFG: Guided-Missile Frigate

GDP: Gross Domestic Product

GPS: Global Positioning System

HA/DR: Humanitarian Assistance/Disaster Relief

ICBM: Intercontinental-Range Ballistic Missile

IJO: Integrated Joint Operations

LACM: Land Attack Cruise Missile

MIRV: Multiple Independently Targeted Re-entry Vehicles

MMCA: Military Maritime Consultative Agreement

MND: Ministry of National Defense

MR: Military Region

MRBM: Medium-Range Ballistic Missile

MRL: Multiple Rocket Launcher

NCO: Non-Commissioned Officer

NDU: National Defense University

NFU: No First Use

OMTE: Outline of Military Training and Evaluation

OTH: Over-the-Horizon

PLA: People's Liberation Army

PLAAF: People's Liberation Army Air Force

PRC: People's Republic of China

R&D: Research and Development

S&ED: Strategic and Economic Dialogue

SAM: Surface-to-Air Missile

SCO: Shanghai Cooperation Organization

SLBM: Submarine-Launched Ballistic Missile

SLOC: Sea Lines of Communication

SRBM: Short-Range Ballistic Missile

SS: Diesel-Electric Attack Submarine

SSBN: Nuclear-Powered Ballistic Missile Submarine

SSN: Nuclear-Powered Attack Submarine

UAV: Unmanned Aerial Vehicle

UCAV: Unmanned Combat Aerial Vehicle

UN: United Nations

UNCLOS: UN Convention on the Law of the Sea

USCG: United States Coast Guard

USMC: United States Marine Corps

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Chapter One: Annual Update

"The future and destiny of contemporary China is more and more closely linked to the future and destiny of the world. China's development cannot be done without the world, and the world's development needs China."

– People's Republic of China President Hu Jintao

Several significant developments in China over the past year relate to the questions Congress posed in Section 1246 of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111-84).

DEVELOPMENTS IN THE SECURITY SITUATION IN THE TAIWAN STRAIT

Since the election of President Ma Ying-jeou in March 2008, the People's Republic of China (PRC) has promoted greater cross-Strait engagement. Both Beijing and Taipei have emphasized enhancing semi-official, people-to-people and party-to-party contacts, and expanding economic and cultural ties. There have been no meaningful actions on the part of the mainland, however, to reduce the PRC military presence opposite the island.

- President Hu Jintao made a major speech on December 31, 2008, in which he set forth key elements of Beijing's cross-Strait policy. The speech signaled greater flexibility on Taiwan's international status and suggested expanded contacts between the two sides' militaries. It also included an explicit outreach to Taiwan's historically pro-independence opposition Democratic Progressive Party, on the condition that it relinquishes its independence activities. In May 2009, China exercised greater flexibility on Taiwan's international participation by not objecting to Taiwan's participation in the World Health Assembly as an observer. Although cross-Strait military contacts did not expand materially in 2009, Beijing and Taipei continued negotiations on an Economic Cooperation Framework Agreement.
- In May 2009, Wang Yi, Chairman of the mainland's Taiwan Affairs Office—an office under the State Council that is responsible for setting and implementing policies related to Taiwan—expanded upon the theme of Beijing's willingness to discuss military confidence-building measures by stating that the PRC and Taiwan should not avoid discussing difficult political and military issues. He said that a failure to resolve such topics could result in a bottleneck in the development of cross-Strait relations.

DEVELOPMENTS IN THE SIZE, LOCATION, AND CAPABILITIES OF PRC MILITARY FORCES

China's long-term, comprehensive transformation of its military forces is improving its capacity for force projection and anti-access/area-denial. Consistent with a near-term focus on preparing for Taiwan Strait contingencies, China continues to deploy many of its most advanced systems to the military regions (MRs) opposite Taiwan.

Ballistic and Cruise Missiles. China has the most active land-based ballistic and cruise missile program in the world. It is developing and testing several new classes and variants of offensive missiles, forming additional missile units, qualitatively upgrading certain missile systems, and developing methods to counter ballistic missile defenses.

- The PLA is acquiring large numbers of highly accurate cruise missiles, such as the domestically-produced ground-launched DH-10 land-attack cruise missile (LACM); the domestically produced ground- and ship-launched YJ-62 anti-ship cruise missile (ASCM), which is outfitted on the domestically produced LUYANG II-class guided-missile destroyer (DDGs); the Russian SS-N-22/SUNBURN supersonic ASCM, which is outfitted on China's SOVREMENNYY-class DDGs acquired from Russia; and, the Russian SS-N-27B/SIZZLER supersonic ASCM, which is outfitted on China's Russian-built, KILO-class diesel electric submarines.
- By December 2009, the PLA had deployed between 1,050 and 1,150 CSS-6 and CSS-7 short-range ballistic missiles (SRBM) to units opposite Taiwan. It is upgrading the lethality of this force, including by introducing variants of these missiles with improved ranges, accuracies, and payloads.
- China is developing an anti-ship ballistic missile (ASBM) based on a variant of the CSS-5 medium-range ballistic missile (MRBM). The missile has a range in excess of 1,500 km, is armed with a maneuverable warhead, and when integrated with appropriate command and control systems, is intended to provide the PLA the capability to attack ships, including aircraft carriers, in the western Pacific Ocean.
- China is modernizing its nuclear forces by adding more survivable delivery systems. For example, in recent years the road mobile, solid propellant DF-31 and DF-31A intercontinental range ballistic missiles (ICBM) have entered service. The DF-31A, with a range in excess of 11,200 km, can reach most locations within the continental United States (CONUS).
- China may also be developing a new road-mobile ICBM, possibly capable of carrying a multiple independently targeted re-entry vehicles (MIRV).

Naval Forces. The PLA Navy has the largest force of principal combatants, submarines, and amphibious warfare ships in Asia. China's naval forces include some 75 principal combatants, more than 60 submarines, 55 medium and large amphibious ships, and roughly 85 missile-equipped patrol craft.

- Construction of a new PLA Navy base on Hainan Island is essentially complete. The base is large enough to accommodate a mix of attack and ballistic missile submarines and advanced surface combatants. The base, which has underground facilities, provides the PLA Navy with direct access to vital international sea lanes, and offers the potential for stealthy deployment of submarines into the South China Sea.
- China has an active aircraft carrier research and development program. The PRC shipbuilding industry could start construction of an indigenous platform by the end of this year. China is interested in building multiple operational aircraft carriers with support ships in the next decade.
- The PLA Navy has reportedly decided to initiate a program to train 50 pilots to operate fixed-wing aircraft from an aircraft carrier. The initial program, presumably land-based, would be followed in about four years by ship-borne training involving the ex-VARYAG—a former Soviet Kuznetsov-class aircraft carrier—which was purchased by China from Ukraine in 1998 and is being renovated at a shipyard in Dalian, China.
- The PLA Navy is improving its over-the-horizon (OTH) targeting capability with Sky Wave and Surface Wave OTH radars. OTH radars could be used in conjunction with imagery satellites to assist in locating targets at great distances from PRC shores to support long range precision strikes, including by anti-ship ballistic missiles.
- China continues production of its newest JIN-class (Type 094) nuclear powered ballistic missile submarine (SSBN). China

Informatization

The concept of "informatization" (*xinxihua*—信息化) emphasizes the effects of modern information technology on military decision and weapons employment cycles. The term officially entered the PLA's lexicon in 2002 when then-Chinese Communist Party (CCP) General Secretary and Central Military Commission (CMC) Chairman Jiang Zemin, in a speech before the 16th Party Congress, referred to the concept as necessary for the PLA's rapid modernization and for enabling Integrated Joint Operations. Jiang's address recognized that moving China's military on a path toward informatization would require integrating the entire PLA with common information systems, as well as a new organizational model for warfighting. The PLA formally institutionalized the concept in 2004. PLA analyses of U.S. and coalition operations in Iraq and Afghanistan have re-emphasized the importance of informatization and joint operations.

The PLA is attempting the concurrent pursuit of "mechanization" (application of late 20th-Century industrial technology to military operations) and "informatization" (application of information technology to military operations). As a consequence, and in recognition of the high costs of force-wide refitting with state-of-the-art weapons systems, the PLA is selectively acquiring new generation technologies in some areas, while deferring new acquisitions in others in favor of upgrading older, but capable, systems for networked operations.

may field up to five new SSBNs. One JIN-class SSBN has entered service alongside two new SHANG-class (Type 093) nuclear-powered attack submarines (SSN), four older HAN-class SSNs, and China's single XIA-class SSBN.

- China is further expanding its current force of nuclear-powered attack submarines and may add up to five advanced Type 095 SSNs to the inventory in the coming years.
- China has 13 SONG-class (Type 039) diesel-electric attack submarines (SS) in its inventory. The SONG-class SS is designed to carry the YJ-82 ASCM. The follow-on to the SONG is the YUAN-class SS, as many as four of which are already in service. China may plan to construct 15 additional hulls for this class. The YUAN-class SS are armed similarly to the SONG-class SS, but also include a possible air independent propulsion system. The SONG SS, YUAN SS, and SHANG SSN will be capable of launching the new CH-SS-NX-13 ASCM, once the missile completes development and testing.
- The PLA Navy continues its acquisition of domestically produced surface combatants. These include two LUYANG II-class (Type 052C) DDGs fitted with the indigenous HHQ-9 long-range surface-to-air missile (SAM); two LUZHOU-class (Type 051C) DDGs equipped with the Russian SA-N-20 long-range SAM; and four (soon to be six) JIANGKAI II-class (Type 054A) guided-missile frigates (FFG) to be fitted with the medium-range HHQ-16 vertically launched naval SAM currently under development. These ships reflect the leadership's priority on an advanced anti-air warfare capability for China's naval forces, which has historically been a weakness of the fleet.
- China has deployed some 60 of its new HOUBEI-class (Type 022) wave-piercing catamaran hull missile patrol boats. Each boat can carry up to eight YJ-83 ASCMs.

Air and Air Defense Forces. China bases 490 combat aircraft within unrefueled operational range of Taiwan, and has the airfield capacity to expand that number by hundreds. Many of these aircraft are upgrades of older models;

however, newer and more advanced aircraft make up a growing percentage of the inventory.

- The PLA Air Force (PLAAF) celebrated its 60th Anniversary on November 11, 2009. During the anniversary ceremony, CMC Vice Chairman General Guo Boxiong urged the PLAAF to accelerate the development of new weapons systems, improve the PLAAF's logistics systems, and improve joint operations training. In an interview on the occasion of the anniversary, PLAAF Commander General Xu Qiliang said that the trend of military competition extending to space is "inevitable" and emphasized the transformation of the PLAAF from a homeland defense focus to one that "integrates air and space," and that possesses both "offensive and defensive" capabilities.
- China is upgrading its B-6 bomber fleet (originally adapted from the Russian Tu-16) with a new variant that, when operational, will be armed with a new long-range cruise missile.
- The PLAAF has continued to expand its inventory of long-range, advanced SAM systems and now possesses one of the largest such forces in the world. Over the past five years, China's efforts have included the acquisition of a number of SA-20 PMU2 battalions, the most advanced SAM system offered for export by Russia, and the introduction of the indigenously designed HQ-9.
- China's aviation industry is developing several types of airborne early warning and control (AEW&C) aircraft. This includes the KJ-200, based on the Y-8 transport, for AEW&C as well as intelligence collection and maritime surveillance, and the KJ-2000, based on a modified IL-76 transport airframe.

Ground Forces. The PLA has about 1.25 million personnel in its ground forces, with roughly 400,000 based in the three MRs opposite Taiwan. China is upgrading ground forces units with modern tanks, armored personnel carriers, and artillery. Among the new capabilities acquired by, or under development for, PLA ground forces are Type 99 third-generation main battle tanks, a new-generation amphibious assault vehicle (AAV), and 200-mm, 300-mm, and 400-mm multiple rocket launch systems.

- In 2009, the PLA focused training and exercises on command and control, joint ground and air coordination, mobility and mobilization in information warfare, and assault operations.
- In addition to the active ground forces, China has a reserve force of some 500,000 (as of 2008) and a large militia that can be mobilized in wartime to support the war effort within their home provinces. Although China plans to reduce the size of the organized militia from 10 million to 8 million by the end of the 11th Five Year Plan (2006-2010), all males between 18 and 35 years of age not currently serving in the military are technically part of the militia system.

DEVELOPMENTS IN PLA DOCTRINE

In 2009, the PLA continued to emphasize training in line with recent doctrinal developments that emphasize non-war missions, as well as training for war under realistic, high-tech conditions. These PLA efforts to achieve more informatized joint training were highlighted in China's 2008 Defense White Paper and marked a continuation of efforts to implement the revised Outline of Military Training and Evaluation (OMTE), which was published in mid-2008 and became standard across the PLA on January 1, 2009.

- The new OMTE emphasizes realistic training conditions, training in complex electromagnetic and joint environments, and integrating new and high technologies into the force structure.
- PLA group armies diversified their 2009 training to include military operations other

than war. The training now includes anti-terrorism, emergency response, disaster relief, and international peace operations.

- The PLA continues to emphasize enabling joint operations. For example, the PLA established the Jinan Theater Joint Leadership Organization—the first of its kind—to integrate, at the campaign level, all services, including the Second Artillery Corps, as well as provincial leadership and leading personnel from other organizations.

Enabling Modern Warfare: Joint Operations

China's military has been working for several years to develop the capability to conduct integrated joint operations (IJO), a concept the PRC believes essential to modern warfare. IJO are characterized by the integration of multiple service elements under a joint command headquarters, making full use of advanced information technology and a networked command platform. China's research, training, and preparations for joint operations have evolved substantially since the promulgation of its first joint campaign doctrine in the late 1990s, but serious challenges limit the PLA's ability to conduct IJO through at least 2010.

- Early Chinese attempts at joint operations focused on the cooperation of branches within a service and operations loosely coordinated among the services using phased operations.
- The PLA issued its first doctrine for the conduct of joint operations in 1999. However, PLA training and exercises for several years after the doctrine's establishment reflected a reliance on pre-determined sequencing of service operations with little interaction or integration of the forces.
- Recent efforts toward more integrated operations are embodied in the January 2009 edition of the PLA OMTE. This OMTE has been noted in official Chinese media as a new starting point for IJO and as making PLA training more joint and complex.

Obstacles. China's military leaders recognize and acknowledge that one of the primary obstacles to IJO is that many PLA commanders have little or no training for, or experience operating in, a joint environment. Key challenges include a shortage of commanders and staff qualified for such operations; a lack of understanding of the capabilities, equipment, and tactics of the other services; and a lack of advanced technology to enable communication and information sharing among the services.

Efforts to Improve. To rectify these deficiencies, the PLA launched enhanced training and professional military education, cross-training rotational assignments to different services, war simulations, military training coordination zones, and multi-regional military exercises. In 2009, the PLA conducted at least three high-profile joint exercises through mid-September, including a joint ground-air exercise involving cross-military region deployment of up to 50,000 troops, a joint campaign exercise to train theater-level commanders in joint operations, and a joint anti-terrorism exercise with Russia.

DEVELOPMENTS IN PRC EFFORTS TO DEVELOP, ACQUIRE, OR GAIN ACCESS TO ADVANCED TECHNOLOGIES THAT COULD ENHANCE ITS MILITARY CAPABILITIES

China relies on foreign technology, acquisition of key dual-use components, and focused indigenous research and development to advance military modernization.

The PRC utilizes a large, well-organized network of enterprises, defense factories and affiliated research institutes and computer network operations to facilitate the collection of sensitive information and export-controlled technology. These entities are not necessarily nor always linked to PRC intelligence and security services.

Many of the enterprises and institutes that make up the PRC military-industrial complex have both military and civilian research and development functions. This network of commercial and government-affiliated companies and research institutes often enables the PLA to gain access to sensitive and dual-use technologies or knowledgeable experts under the guise of civilian research and development. The enterprises and institutes accomplish this through technology conferences and symposia; legitimate contracts and joint commercial ventures; partnerships with foreign firms; and, joint development of specific technologies.

In the case of key national security technologies, controlled equipment, and other materials not readily obtainable through commercial means or academia, the PRC resorts to more focused efforts, including the use of its intelligence services and other-than-legal means, in violation of U.S. laws and export controls. Since 2008, U.S. press reporting has publicized a number of cases spotlighting the measures taken to procure items perceived by the PRC as crucial to its technological development and military modernization. Even though cases primarily involve charges of illegal technology transfer by individuals within the United States to the PRC, traditional espionage does occur.

- In July 2009, PRC national Chi Tong Kuok was indicted for violating U.S. export laws after allegedly attempting to obtain sensitive cryptology equipment that would have allowed the PRC to monitor U.S. military communications.
- Another case involved a former U.S. Pacific Command liaison official, who was charged in May 2009 with knowingly passing classified and unclassified information, including U.S. policy documents, to a PRC agent.
- In July 2009, a former professor at the University of Tennessee was sentenced to four years imprisonment for a case involving the export to PRC nationals of controlled technical data related to a restricted U.S. Air Force contract to develop plasma actuators for an unmanned aerial vehicle (UAV).

CHALLENGES TO TAIWAN'S DETERRENT FORCES

There were no armed incidents in the vicinity of the Taiwan Strait in 2009 and the overall situation remains stable, as it did in 2008. However, the PRC's military build-up and the deployment of advanced capabilities opposite the island have not eased.

Since arriving in office in May 2008, President Ma Ying-jeou has instituted a number of important and far-reaching defense reforms designed to streamline and professionalize the military. Taiwan continues to advance select capabilities and improve its overall contingency training. The balance of forces continues, however, to shift in the mainland's favor.

- Taiwan plans to cut its military force to 215,000 troops and transition to an all-volunteer military by the end of 2014. It will also reorganize several support commands and civilianize its key defense

research and development facility to improve efficiency and productivity.

- Consistent with the provisions of the Taiwan Relations Act, Public Law 96-8 (1979), the United States continues to make available defense articles and defense services to enable Taiwan to maintain a sufficient self-defense capability. Toward this end, in January 2010, the Obama Administration announced its intent to sell to Taiwan $6.4 billion in defensive arms and equipment, including UH-60 utility helicopters; PATRIOT PAC-3 air and missile defense systems; HARPOON training missiles; Multifunctional Information Distribution Systems technical support for Taiwan's *Po-sheng* command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) system; and OSPREY-class minehunting ships.

DEVELOPMENTS IN CHINA'S SPACE AND CYBER CAPABILITIES

Space and Counterspace Capabilities. China is expanding its space-based intelligence, surveillance, reconnaissance, navigation, and communications satellite constellations. In parallel, China is developing a multi-dimensional program to improve its capabilities to limit or prevent the use of space-based assets by potential adversaries during times of crisis or conflict. China's commercial space program has utility for non-military research, but it also demonstrates space launch and control capabilities that have direct military application.

- Beijing launched a navigation satellite on April 15, 2009, and plans to have a full network to provide global positioning for military and civilian users by 2015-2020.
- China launched Yaogan-6 on February 22, 2009, the 6th in a series of new reconnaissance satellites orbited since 2006.
- Russia launched a commercial communications satellite (COMSAT), Asiasat-5, for China on September 11, 2009. Beijing launched a commercial COMSAT, Palapa-D, for Indonesia on August 31, 2009.
- China continues development and testing of the Long March V rocket. Intended to lift heavy payloads into space, it will more than double the size of the Low Earth Orbit and Geosynchronous Orbit payloads that China can currently place into orbit. To support these new rockets, China began construction of a launch facility near Wenchang on Hainan Island in 2008.

Cyberwarfare Capabilities. In 2009, numerous computer systems around the world, including those owned by the U.S. Government, continued to be the target of intrusions that appear to have originated within the PRC. These intrusions focused on exfiltrating information, some of which could be of strategic or military utility. The accesses and skills required for these intrusions are similar to those necessary to conduct computer network attacks. It remains unclear if these intrusions were conducted by, or with the endorsement of, the PLA or other elements of the PRC government. However, developing capabilities for cyberwarfare is consistent with authoritative PLA military writings.

- In March 2009, Canadian researchers uncovered an electronic spy network, apparently based mainly in China, which had reportedly infiltrated Indian and other nations' government offices around the world. More than 1,300 computers in 103 countries were identified.

CHINA'S FOREIGN MILITARY ENGAGEMENT

China's military engagement with other countries seeks to enhance China's national power by improving foreign relationships, bolstering its international image, and assuaging other countries' concerns about China's rise. The PLA's activities also assist its modernization through the acquisition of advanced weapons systems, increased operational experience both within and beyond

Asia, and access to foreign military management practices, operational doctrine, and training methods.

- China continues the Gulf of Aden counter-piracy deployment that began in December 2008. The PLA Navy in December 2009 sent its fourth deployment, with three frigates and one supply ship. Outside of occasional ship visits, this represents the PLA Navy's first series of operational deployments beyond the immediate western Pacific region.
- The Ministry of National Defense (MND) in August 2009 launched an official website in both Chinese and English to promote a positive image of China's military to foreign audiences.
- In July 2009, the MND announced that China would comprehensively expand foreign military relations through initiatives such as: maintaining military attaché offices in 109 countries; annually sending more than 100 military delegations abroad and receiving more than 200 visiting military delegations; conducting high-level strategic consultations and professional and technical exchanges; and organizing study abroad exchanges for mid-grade and junior officers.

Combined Exercises. PLA participation in bilateral and multilateral exercises is increasing. The PLA derives political benefit through increased influence and enhanced ties with partner states and organizations. Such exercises also contribute to PLA modernization by providing opportunities to improve capabilities in areas such as counterterrorism, mobility operations, and logistics. The PLA also gains operational insights by observing tactics, command decision-making, and equipment used by more advanced militaries.

- The PLA Navy in March conducted search and rescue operations during "AMAN 2009," a multilateral naval exercise hosted by Pakistan.
- China and Gabon conducted "Peace Angel 2009" in June, a military medical exercise in Gabon. This is the first exercise of this sort in which China has participated.
- China and Singapore conducted "Cooperation 2009" in June, a combined training exercise that focused on responding to a terrorist plot to use nuclear weapons.
- In late June through early July, China and Mongolia held "Peacekeeping Mission 2009," the first combined training between the two countries.
- The Sino-Russian counterterrorism exercise "Peace Mission 2009" was held in July and involved roughly 1,300 PLA troops. It focused on air assault, joint operations, and special operations.

Peacekeeping and Humanitarian Assistance/ Disaster Relief Operations. Since 2002, China's contributions to United Nations (UN)-sponsored peace operations have increased. Presently more than 2,100 on-duty PRC personnel are serving in UN missions, with a total contribution of more than 12,000 personnel deployed to 22 missions. China is now the leading contributor of peacekeeping personnel among the five permanent members of the UN Security Council. China's contributions have included engineering, logistics, and medical troops, civilian police, and observers.

- In March 2009, PRC peacekeepers deployed to Lebanon's southern border began using advanced explosive ordnance disposal technologies and techniques, including robot detectors, to sweep landmines.

China's civilian and military leaders have identified humanitarian assistance/disaster relief (HA/DR) as an area for China to cooperate with regional and global partners.

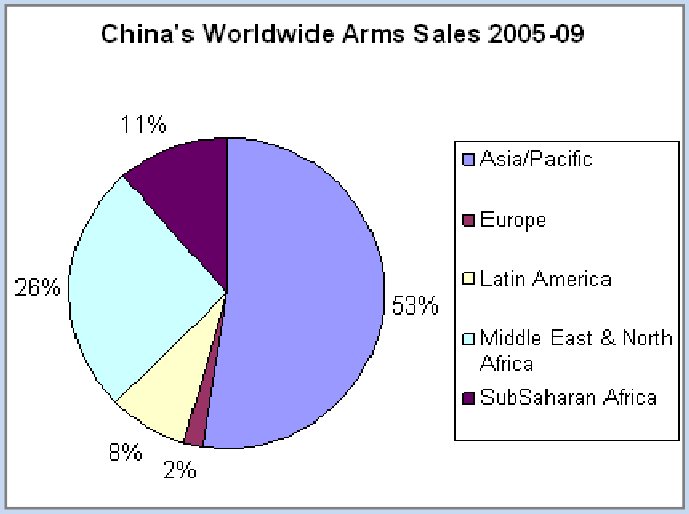
- In May 2009, the State Council released a white paper entitled, "China's Actions for Disaster Prevention and Reduction."

The paper included a call to strengthen capacity for emergency rescue and relief work at home and abroad, and to establish a coordinated and efficient disaster management system.

- In May 2009, China's 10,000-ton ANWEI-class hospital ship, the "Peace Ark," conducted its first operational training event. This also was the first time the ship was open to foreign navies.

Arms Sales

Beijing uses arms sales to enhance foreign relationships and to generate revenue to support its domestic defense industry. China's arms sales range from small arms and ammunition to transfers of advanced weapons systems. Over the past thirty years, arms sales have generally declined in importance to Beijing as a tool of influence, particularly as PRC weapons systems became less competitive compared to the more sophisticated systems available from Russia or Western sources. As the quality of PRC weapons systems improves, however, this trend may reverse. From 2005-2009, China sold approximately $8 billion worth of conventional weapons systems worldwide. PRC companies sell primarily to developing countries, where China's low-cost weapons are able to achieve market access. In other instances, arms sales serve to cultivate relationships with important strategic partners, such as Pakistan.



PRC Worldwide Arms Sales. *Arms sales for 2005-2009, divided by region.*

U.S. ENGAGEMENT AND COOPERATION ON SECURITY MATTERS

Military-to-Military Ties. U.S.-China military-to-military relations improved in 2009, based on the commitment of President Obama and President Hu to deepen and improve ties between the U.S. and PRC armed forces, and to take concrete steps to advance sustained and reliable military-to-military relations.

High-level dialogues provided important platforms for building toward common views on the international security environment and related security challenges. Examples from 2009 include:

- The Secretary of Defense hosted PRC CMC Vice Chairman General Xu Caihou in October—the first such visit in three years. The two agreed to a number of cooperative exchanges and high-level visits, and exchanged views on regional security issues.
- The U.S. Chief of Naval Operations attended the PLA Navy's International Fleet Review in April, and the U.S. Chief of Staff of the Army visited China in August.

The Department of Defense is also investing in an expanded suite of mechanisms for dialogue and consultation with China, seeking to build towards continuous dialogue at all levels to expand cooperation in areas where U.S. and PRC national interests converge, and to discuss constructively differences.

- In June, the Under Secretary of Defense for Policy held the U.S.-China Defense Consultative Talks (DCT) with the Deputy Chief of the PLA General Staff in Beijing. The DCT served as a platform for the two sides to exchange views and explore avenues for cooperation, including on Iran, North Korea, piracy, and defense policy development.
- In August, the United States and China convened a special session of the Military Maritime Consultative Agreement (MMCA) to discuss safe maritime security practices and issues in China's claimed exclusive economic zone (EEZ).
- In December, the Deputy Assistant Secretary of Defense for East Asia held the U.S.-China Defense Policy Coordination Talks (DPCT) with the Director, MND Foreign Affairs Office (FAO). The two sides discussed a range of security issues, including climate change, counter-piracy, internationally lawful uses of the sea, and future military-to-military exchanges.

Despite these positive developments, Beijing chose to suspend military-to-military exchanges in January 2010 following the Obama Administration's announcement of its intent to sell defensive arms and equipment to Taiwan.

Non-Military Security Ties. The first round of the U.S.-China Strategic and Economic Dialogue (S&ED) was held in Washington, D.C. on July 27-28, 2009. The S&ED focused on addressing the challenges and opportunities that both countries face on a wide range of bilateral, regional, and global areas of immediate and long-term strategic and economic interests. The S&ED is led by the Secretary of State and the Secretary of the Treasury on the U.S. side, and by State Councilor Dai Bingguo and Vice Premier Wang Qishan on the PRC side. Many other Cabinet-level and other senior U.S. officials attended, including the Secretary of Energy, the Under Secretary of Defense for Policy, and the Commander, U.S. Pacific Command.

- The two sides agreed on the importance of maintaining continuous military contact and reviewed the slate of military-to-military exchanges for the remainder of the year.
- Both sides also pledged to work collaboratively to strengthen global nonproliferation and arms control regimes, and to work to address security concerns related to North Korea, Iran, Afghanistan and Pakistan, and Sudan.

- A Memorandum of Understanding on Enhancing Cooperation on Climate Change, Energy, and the Environment was signed during the meeting.

The United States and China resumed the bilateral Nonproliferation Dialogue in Washington in September 2009, which had been suspended following the announcement of U.S. arms sales to Taiwan in October 2008. The two sides met again in December 2009 in Beijing. These exchanges, conducted at the Assistant Secretary of State level, seek to strengthen overall nonproliferation cooperation.

U.S. Coast Guard (USCG) Commandant Thad Allen traveled to China in mid-July 2009, where he discussed opportunities to foster increased cooperation on civil-maritime issues with representatives from the Ministry of Transport, and visited the Maritime Police Academy at Ningbo. The government of China is moving quickly to build up its civil-maritime capabilities, particularly in search and rescue, environmental protection, port security, and interdiction. The USCG is committed to helping assist and shape these developments. In keeping with the USCG's interest in maximizing professional exchanges designed to increase mutual trust and understanding, the Commandant proposed to send a small number of cadets and an instructor to the Maritime Police Academy in summer 2010.

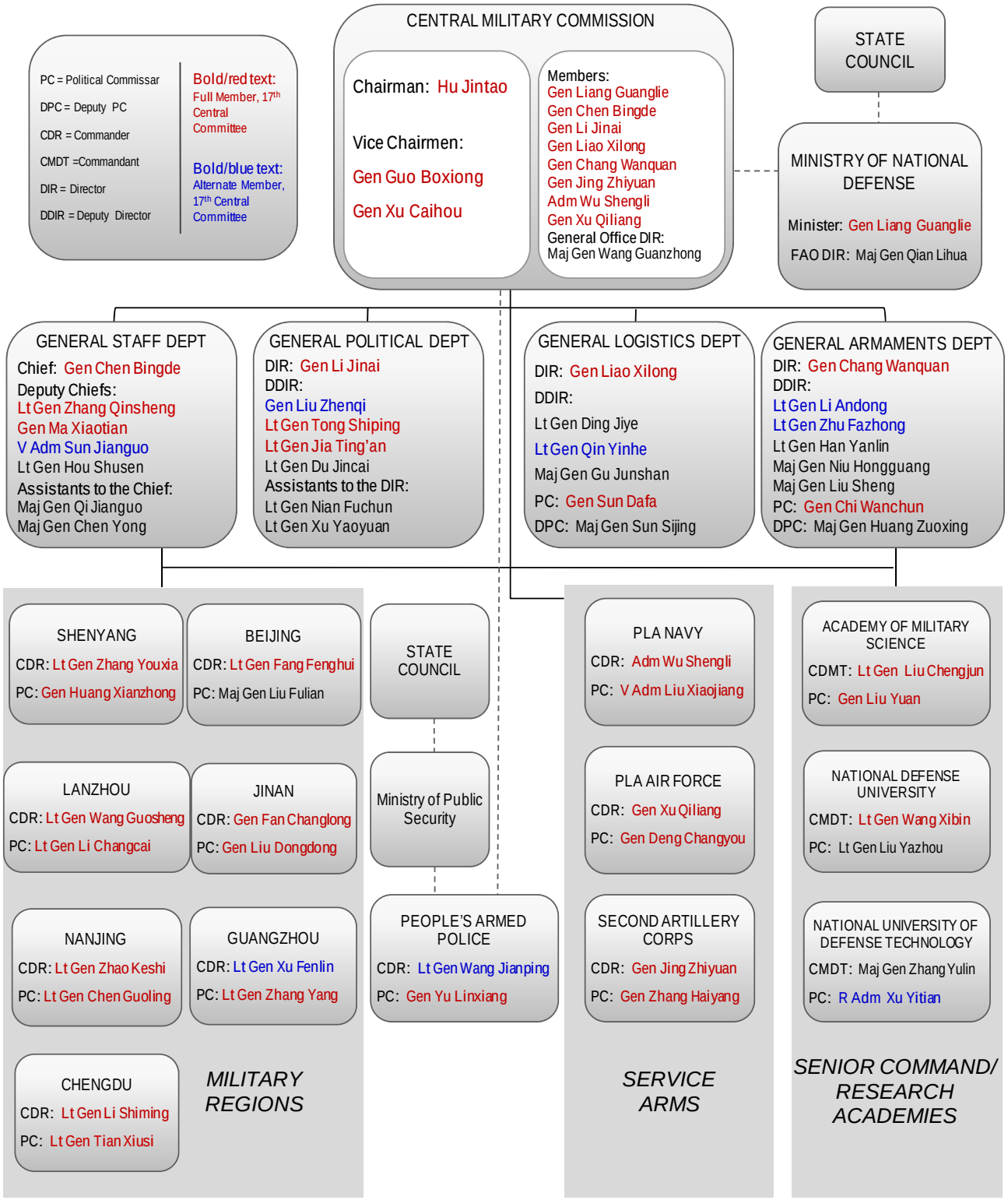
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Chapter Two: Understanding China's Strategy

OVERVIEW

China does not publish equivalents to the U.S. *National Security Strategy, National Defense Strategy*, or *National Military Strategy*. Rather, China uses "white papers," speeches, and articles as the principal mechanisms to communicate policy and strategy publicly. The transparency of China's military and security affairs has improved in recent years, including its biennial publication of Defense White Papers and the 2009 launch of an official MND website. The most recent Defense White Paper (2008) summarizes China's defense policy as upholding national security and unity and ensuring the interests of national development; achieving the all-round coordinated and sustainable development of China's national defense and armed forces; enhancing the performance of the armed forces with informatization as the major measuring criterion; implementing the military strategy of active defense; pursuing a self-defensive nuclear strategy; and fostering a security environment conducive to China's peaceful development. However, much more could be said by China about its military investments, the strategy and intentions shaping those investment choices, and the military capabilities it is developing.

The study of PLA views on strategy remains an inexact science, and outside observers have few direct insights into the formal strategies motivating China's force build-up, the leadership's thinking about the use of force, the contingency planning that shapes the PLA's force structure or doctrine, or the linkages between strategic pronouncements and actual policy decisions, especially in crisis situations. It is possible, however, to make some generalizations about China's strategy based on tradition, historical pattern, official statements and papers, and emphasis on certain military capabilities and diplomatic initiatives.



The PRC Military Structure

CHINA'S STRATEGIC PRIORITIES

China's leaders appear to make national decisions based on a set of strategic priorities, which include perpetuating CCP rule, sustaining economic growth and development, maintaining domestic political stability, defending China's national sovereignty and territorial integrity, and securing China's status as a great power. PRC strategy is one of maintaining balance among these, at times, competing priorities. China's leaders describe the initial decades of the 21st century as a "strategic window of opportunity," meaning that regional and international conditions will generally be conducive to China's rise to regional preeminence and global influence, and seek to prolong that window of opportunity as much as possible.

China's leaders have reaffirmed and continue to support "reform and opening," which began in 1978 as the fundamental basis for China's overall strategy and policy. However, two central perceptions increasingly appear in senior PRC leadership statements and commentary, suggesting a growing recognition that the process of "reform and opening" has engendered several contradictions and challenges:

- First, reforms have enabled China to experience rapid growth in economic, political, and military power, but have also led to significant new challenges to internal stability.
- Second, reforms have increasingly propelled China into a global security environment in which external events can no longer be isolated from their effects on China's internal situation, and vice versa.

These dual perceptions have led Party leaders to conclude that, through 2020, they should focus on managing or exploiting external tensions, especially with the great powers, to maintain an environment conducive to China's development.

Beijing's growing economic stature partly drives a more active external posture in which it demonstrates a willingness to assert its interests, while taking on a more active role in resolving disputes and promoting regional cooperation. In a significant departure from prior language, China's 2008 Defense White Paper maintains that:

> *"China has become an important member of the international system and the future and destiny of China have been increasingly closely connected with the international community. China cannot develop in isolation from the rest of the world, nor can the world enjoy prosperity and stability without China."*

Nonetheless, there are forces—some beyond the control of China's leaders—that could reinforce a relatively inward focus, or that could divert China from a peaceful pathway:

- *Nationalism:* Communist Party leaders continue to rely on nationalism, based on China's economic achievements and increased international profile, to improve the legitimacy of the Party. However, this approach contains risks. Although China's leaders have stoked patriotic sentiment to manipulate public opinion and deflect domestic criticism of the CCP, they are aware that these forces can be difficult to control once begun and could easily turn against the state.
- *Economics:* Continued economic development remains the foundation of the Party's popular legitimacy and underwrites its military power. Unexpected increases in resource demand, global resource shortages or price shocks, or restricted access to resources, could affect China's strategic outlook and behavior, and might force its leadership to re-examine its resource allocation priorities, including those for the military.
- *Domestic Political Pressures:* Regime survival and the maintenance of CCP rule shape the strategic outlook of China's leaders and drive many of their choices. The Communist Party continues to face long-term popular demands for improved

government responsiveness, transparency and accountability, which weakens its legitimacy.

- *Demographic Pressures:* Demographic stresses will increase in the future, creating a structural constraint on China's ability to sustain high growth rates.
- *Environment:* China's economic development has come at a significant environmental cost and China's leaders are concerned that these problems could undermine regime legitimacy by threatening economic development, public health, social stability, and China's international image.
- *Cross-Strait Dynamics:* Despite a reduction in tensions following the March 2008 election of Taiwan President Ma Ying-jeou, the possibility of a military conflict with Taiwan and U.S. military intervention remain the PLA's most pressing long-term military concerns. A potential cross-Strait conflict will drive China's military modernization as long as China's leaders judge that the permanent loss of Taiwan could seriously undermine the regime's political legitimacy and hold on power.
- *Regional Concerns:* With China's proximity and involvement in many of the world's "flashpoints" (e.g., North Korea, the Spratly Islands, the Senkaku Islands, Afghanistan, and Pakistan), China's leaders hope to prevent regional instability from spilling across China's borders and thereby interfering with economic development or domestic stability. Changes in regional security dynamics—such as perceived threats to China's ability to access and transport foreign resources, or disruptions on the Korean Peninsula—could lead to shifts in China's military development and deployment patterns, likely with consequences for neighboring states.



China's Disputed Territories. *Although not exhaustive, three of China's major ongoing territorial disputes are based on claims along its shared border with India and Bhutan, the South China Sea, and with Japan in the East China Sea.*

China's Territorial Disputes

China's use of force in territorial disputes has varied widely throughout history. Some disputes led to war, such as China's border conflicts with India in 1962 and Vietnam in 1979. A contested border with the former Soviet Union during the 1960s raised the possibility of nuclear war. In more recent cases, China has been willing to compromise with and even offer concessions to its neighbors. Since 1998, China has settled eleven land territorial disputes with six of its neighbors. Several disputes continue over EEZs and ownership of potentially rich, off-shore oil and gas deposits.

The East China Sea contains approximately 7 trillion cubic feet of natural gas and up to 100 billion barrels of oil. Japan maintains that an equidistant line from each country involved should separate the EEZs, while China claims an Extended Continental Shelf beyond the equidistant line to the Okinawa Trench (which almost reaches Japan's shore). In early 2009, Japan accused China of violating a June 2008 agreement providing for joint exploration of oil and natural gas fields, and claimed that China unilaterally drilled beneath the demarcation line and extracted reserves from the Japanese side. China and Japan continue to dispute possession of the nearby Senkaku Islands. However, both sides have said that this dispute should not undermine their overall relationship.

The South China Sea plays an important role in Northeast Asia and Southeast Asia security considerations. Northeast Asia relies heavily on the flow of oil and commerce through South China Sea shipping lanes, including 80 percent of the crude oil to Japan, South Korea, and Taiwan. China claims sovereignty over the Spratly and Paracel island groups—claims disputed in whole or part by Brunei, the Philippines, Malaysia, Indonesia, and Vietnam. Taiwan, which occupies Itu Aba in the Spratly Islands, also claims all four island groups in the South China Sea. In 2009, China protested claims made by Malaysia and Vietnam and reiterated it has "indisputable sovereignty over the islands in the South China Sea and the adjacent waters and enjoys sovereign rights and jurisdiction over the relevant waters as well as the seabed and subsoil thereof."

Despite increased political and economic relations over the years between China and India, tensions remain along their shared 4,057 km border, most notably over Arunachal Pradesh, which China asserts is part of Tibet and therefore of China, and over the Askai Chin region at the western end of the Tibetan Plateau. Both countries in 2009 stepped up efforts to assert their claims. China tried to block a $2.9 billion loan to India from the Asian Development Bank, claiming part of the loan would have been used for water projects in Arunachal Pradesh. This represented the first time China sought to influence this dispute through a multilateral institution. The then governor of Arunachal Pradesh announced that India would deploy more troops and fighter jets to the area. An Indian academic also noted that in 2008, the Indian military had recorded 270 border violations and nearly 2,300 cases of "aggressive border patrolling" by Chinese soldiers.

DEBATES ON FUTURE STRATEGY

Chinese State Councilor Dai Bingguo in July 2009 defined China's "core interests" as safeguarding the basic system and national security, national sovereignty and territorial integrity, and sustained and stable economic and social development. China's current strategy remains one of managing the external environment to ensure conditions are conducive to its own economic development. This strategy appears to be accepted widely by Beijing's foreign and security policy establishment. However, differences of opinion within China occasionally surface, particularly in academic circles, about how China can achieve these goals and how it can best do so over time without conflict with its neighbors or the United States.

Some prefer the traditional guidance provided by former paramount leader Deng Xiaoping in the early 1990s: "observe calmly; secure our position; cope with affairs calmly; hide our capabilities and bide our time; be good at maintaining a low profile; and never claim leadership." This guidance reflected Deng's belief that PRC foreign policy and security strategy had to reinforce its core national interest of promoting domestic development by denying ambition, and avoiding any pretense of leadership while deflecting those who would encourage China to play a more active and constructive role in addressing regional and international problems. However, another group believes that this more limited approach is untenable as China's power grows. This group asserts that China should actively cooperate with regional actors and the United States to increase China's influence and to assure neighbors and more distant great powers that China's rise will not pose a destabilizing threat to their security. Still others believe that China needs to be tougher and more assertive in protecting its interests by countering perceived efforts by the United States to constrain China or its influence in relation to actors such as Taiwan, Japan, South Korea, and others in Southeast Asia.

There has also been an active debate among military and civilian theorists in China about what new capabilities the PLA should develop to protect and advance China's interests beyond the traditional requirements to protect China from attack or coercion, deter Taiwan independence or influence Taiwan to settle the dispute on Beijing's terms, and defend China's claims to disputed territories in the South China Sea and elsewhere. Some senior officers and civilian theorists advocate a major expansion of the PLA's power projection capabilities, while others urge a more modest increase in its capacity for international peacekeeping, humanitarian assistance, disaster relief, and protection of the sea lanes. The extent to which these considerations shape China's current defense policy and force planning is not known. However, it is increasingly apparent that these concerns influence China's thinking about defense planning.

THE NEW HISTORIC MISSIONS

China's leaders established baseline missions for the armed forces in 2004, officially titled the *Historic Missions of the Armed Forces in the New Period of the New Century* (*xin shiji xin jieduan wojun lishi shiming*—新世纪新阶段我军历史使命). These "new historic missions" focus primarily on adjustments in the PRC leadership's assessment of the international security environment and expanding definition of national security. These missions were further codified in a 2007 amendment to the CCP Constitution. The missions, as currently defined, include:

- Provide an important guarantee of strength for the party to consolidate its ruling position.
- Provide a strong security guarantee for safeguarding the period of strategic opportunity for national development.
- Provide a powerful strategic support for safeguarding national interests.

- Play an important role in safeguarding world peace and promoting common development.

According to official writings, the driving factors behind the articulation of these missions were: changes in China's security situation, challenges and priorities regarding China's national development, and a desire to realign the tasks of the PLA with the CCP's objectives. Politburo member and CMC Vice Chairman Xu Caihou in 2005 asserted "the historic missions embody the new requirements imposed on the military by the Party's historic tasks, accommodate new changes in our national development strategy, and conform to the new trends in global military development."

The 2008 Defense White Paper stated that the PLA had been directed to "integrate efforts to enrich the country and strengthen the military," "perform its new historic missions," and "boost innovation in military theory, technology, organization, and management."

Although economic development remains China's central task, China's leaders clearly intend national defense to be coordinated with economic growth to enable development.

- President Hu Jintao's strategic guidance to the military reflects this view, calling on the military to play a broader role in securing China's strategic interests, including those beyond its territorial boundaries.

In a March 2009 speech to military delegates to China's National People's Congress, President Hu urged the military to concentrate on "building core military capabilities," but also "the ability to carry out military operations other than war" (*fei zhanzheng junshi xingdong*—非战争军事行动). Hu also maintained, "with the prerequisite of satisfactorily completing all missions—taking preparation for military struggle as the lead—the armed forces must participate actively in and support national economic construction and public welfare."

Authoritative PRC media describes these "operations other than war" as including: counterterrorism, maintaining social stability, disaster relief and rescue, and international peacekeeping operations. China's leaders have mentioned other "non-war military" activities including protecting sea lanes, cyber warfare, security of space-based assets, conducting military diplomacy, and preparing for unexpected conditions and events.

- The 2009 PLA Navy deployment to conduct counter-piracy escort missions in the Gulf of Aden is one example of China's pursuit of its new historic missions.
- Another example was the December 2008 launch of China's first large hospital ship. The ship is able to support combat operations, but PRC official press reporting stresses the humanitarian aspects of the ship's mission.

Military and Security Aspects of Beijing's Regional Energy Strategy

China's engagement, investment, and foreign construction related to energy continue to grow. Beijing has constructed or invested in energy projects in more than 50 countries, spanning nearly every continent. The majority of China's external energy related projects and investment since 2003 remains linked to securing long-term energy resources (primarily oil and gas) to sustain economic and industrial development. Beijing's goal for oil and gas development projects is to provide China with direct access to and control of extracted crude oil and natural gas. In addition to increasing imports, Beijing is also seeking to ensure supply from as many producers and through as many transport options as possible. Although energy independence is no longer an option for China, Beijing still seeks to maintain a supply chain less susceptible to disruption from outside factors.

(U) China's Top Crude Oil Suppliers 2008

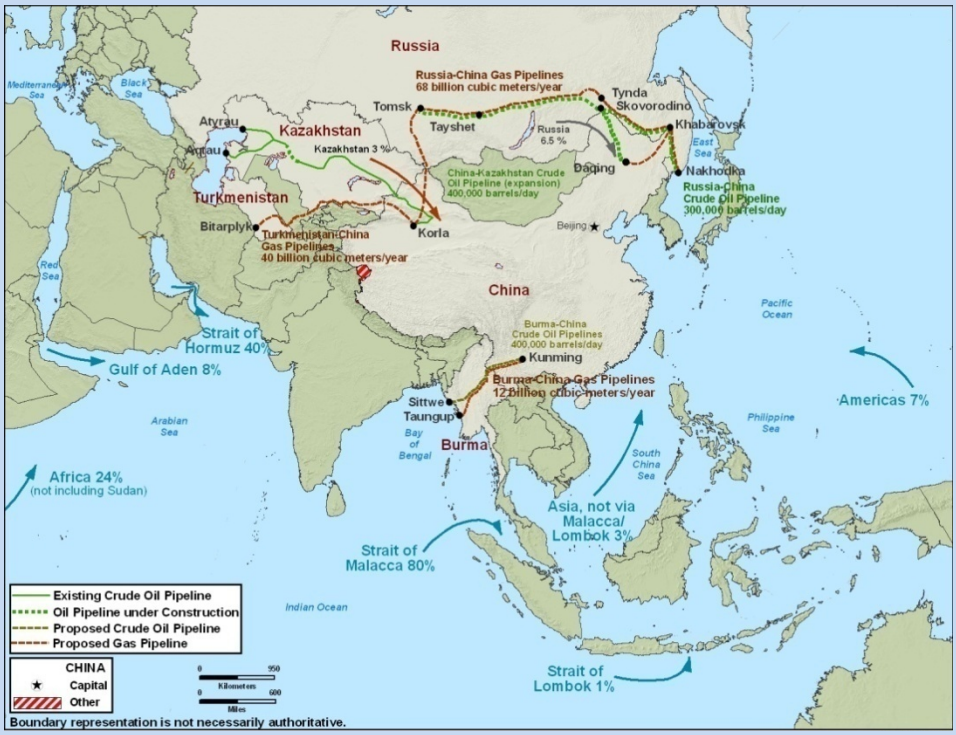
Country	Volume	%
Saudi Arabia	728	20
Angola	599	17
Iran	427	12
Oman	292	8
Russia	233	7
Sudan	210	6
Venezuela	130	4
Kuwait	118	3
Kazakhstan	114	3
UAE	92	3
Other	639	17
TOTAL	3582	100

Volumes are in 1,000 barrels per day
Figures have been rounded

In 2008, China imported 56 percent of its oil and conservative estimates of future oil consumption project that China will import almost two-thirds of its oil by 2015 and four-fifths by 2030. Oil currently contributes about 20% to national energy consumption; China meets about 70% of its total energy needs through coal. Analysis of PRC crude oil imports since 2000 shows only minor variations in sources of crude oil imports. Beijing will therefore likely continue to look to the Persian Gulf, Central Asia, Africa, and North America to satisfy its growing demand for oil.

A second part of Beijing's foreign energy strategy is the development of land-based pipeline corridors that avoid sensitive Sea Lines of Communication (SLOCs) such as the Strait of Malacca. In 2008, over 80 percent of China's oil imports transited the Strait of Malacca. In 2006, a crude oil pipeline designed to deliver 200,000 barrels per day (b/d) of crude oil from Kazakhstan to China became operational. A project to expand the capacity to 400,000 b/d is nearing completion with future plans to increase capacity to 800,000 b/d. In May 2009, construction began on a 300,000 b/d spur pipeline from Siberia to Daqing. Another proposed pipeline would transport 400,000 b/d of crude oil from Kyuakpya, Burma, to Kunming, China, bypassing the Strait of Malacca.

However, evaluation of proven global oil reserves indicates that China's future energy needs can only be met through suppliers in the Persian Gulf, Africa, and North America—all extraction points that will continue to require maritime transport. Pipeline projects, for example, will do little to minimize Beijing's vulnerability in the Strait of Hormuz, through which 40 percent of China's crude oil imports transited in 2008—and this percentage is expected to rise. The sheer volume of oil and liquefied natural gas imports to China from the Middle East will make strategic SLOCs increasingly important to Beijing, and even if all pipeline projects are completed on time and at designed capacity, the effect on China's hydrocarbon security will be minimal.



China's import transit routes/critical chokepoints and proposed/under construction SLOC bypass routes.

Although China currently has no international natural gas pipeline connection, Beijing is financing a pipeline that will deliver up to 40 billion cubic meters (bcm) of natural gas per year from Turkmenistan to China across Kazakhstan and Uzbekistan. Project construction started in the summer of 2007. There are also proposals to build natural gas pipelines from Russia and Burma that would deliver 68 and 12 bcm per year, respectively, to China. Beijing is also urging Moscow to build a gas pipeline from Sakhalin Island to China that would transport an undetermined amount of gas to northeast China.

With these projects, China has become a major economic contributor in several states. However, Beijing has not used oil as a foreign policy lever on the international stage. This is because China remains dependent on oil to support its own industrial and economic development, which makes it a less attractive foreign policy tool. The increasing presence of Chinese oil companies around the world nevertheless cannot be discounted as a future tool of Beijing's influence.

CHINA'S MILITARY STRATEGY

PLA theorists have developed a framework for doctrine-driven reform with the long-term goal of building a force capable of fighting and winning "local wars under conditions of informatization." Drawing upon foreign military experiences, particularly U.S.-led campaigns up to, and including, Operation ENDURING FREEDOM and Operation IRAQI FREEDOM, Soviet and Russian military theory, and the PLA's own combat history, China is transforming across the whole of its armed forces.

The pace and scale of these reforms are broad and sweeping. However, the PLA remains untested in modern combat. This lack of operational experience continues to complicate outside assessment of the progress of China's military transformation. The same applies to China's internal assessments of its own military capabilities, for which China's civilian leaders must rely upon the advice of commanders lacking direct experience in modern combat or upon "scientific" combat models divorced from the realities of the modern battlefield.

Analysis of authoritative speeches and documents suggests China relies on a body of overall principles and guidance known as the "National Military Strategic Guidelines for the New Period" (*xin shiqi guojia junshi zhanlüe fangzhen*—新时期国家军事战略方針) to plan and manage the development and use of the armed forces.

Academic research suggests that the current Guidelines most likely date to 1993, reflecting the impact of the 1991 Persian Gulf War and the collapse of the Soviet Union on PRC military-strategic thinking, with "enhancements" in 2002 and 2004. The latter revisions likely reflect China's perceptions of its security environment and the character of modern war, integrate lessons learned from China's military modernization, and emphasize building forces to win "local wars under conditions of informatization."

According to the 2008 Defense White Paper, these Guidelines emphasize fighting and winning local wars under conditions of informatization and building toward integrated joint operations, with a stress on asymmetric warfare—"make the best use of our strong points to attack the enemy's weak points." Citing the need to ensure "close coordination between military struggle and political, diplomatic, economic, cultural, and legal endeavors," the Guidelines also emphasize the importance of integrating multiple instruments of state power to ensure deterrence and prevent conflict.

The operational, or "active defense," (*jiji fangyu*—积极防御) component of the Guidelines posits a defensive military strategy in which China does not initiate wars or fight wars of aggression, but engages in war only to defend national sovereignty and territorial integrity.

Naval Warfare. The naval component of "active defense" is termed "Offshore Active Defense." The 2008 Defense White Paper describes the PLA Navy as a strategic service, developing the capability to operate in "distant waters." The PLA Navy has three main missions: resist seaborne aggression, protect national sovereignty, and safeguard maritime rights. PLA Navy doctrine for maritime operations focuses on six offensive and defensive campaigns: blockade, anti-sea lines of communication, maritime-land attack, anti-ship, maritime transportation protection, and naval base defense.

PRC President Hu Jintao called China a "sea power" and advocated a "powerful people's navy" to "uphold our maritime rights and interests" during a 2006 speech at a Navy CCP Congress. Other civilian leaders, PLA Navy officials, government writings, and PLA journals have argued that China's economic and political power is contingent upon access to and use of the sea, and that a strong navy is required to safeguard such access. Despite increased consideration of missions farther from China, the Navy's primary focus will remain on

preparing for operations within the "first and second island chains" (see map), with emphasis on a potential conflict with U.S. forces over Taiwan. This is likely to remain true until there is a resolution of the Taiwan issue on terms Beijing finds acceptable.



The First and Second Island Chains. *PRC military theorists conceive of two island "chains" as forming a geographic basis for China's maritime defensive perimeter.*

Ground Warfare. Under "active defense," ground forces are tasked with defending China's borders, ensuring domestic stability, and exercising regional power projection. PLA ground forces are transitioning from a static defensive force allocated across seven internal MRs—oriented for positional, mobile, urban, and mountain offensive campaigns; coastal defense campaigns; and landing campaigns—to a more offensive and maneuver-oriented force organized and equipped for operations along China's periphery.

The 2008 Defense White Paper describes the ground forces as moving from "regional defense to trans-regional mobility." It states that ground forces reforms are aimed principally at making units "small, modular, and multi-functional" and at increasing capabilities for "air-ground integrated operations, long-distance maneuvers, rapid assault, and special operations." PLA ground force reforms are modeled on Russian doctrine and U.S. military tactics. The ground forces appear to be leading the PLA's effort to experiment with *ad hoc*, multi-service, joint tactical formations to execute integrated joint operations. In August and September 2009, more than 50,000 troops from four separate military regions participated in the PLA's first ever large scale national mobility exercise, Kuayue (Stride) 2009.

Offense as Defense

The history of modern Chinese warfare provides numerous case studies in which China's leaders have claimed 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 the United States and Aid Korea." Similarly, authoritative texts refer to border conflicts against India (1962), the Soviet Union (1969), and Vietnam (1979) as "Self-Defense Counter Attacks."

Chinese strategic-level military theory establishes seemingly contradictory guidance: "strike only after the enemy has struck," and "seize the initiative." Of note, China's 2008 Defense White Paper features a slightly different construction:

> *"Strategically, [the PLA] adheres to the principle of…striking and getting the better of the enemy* ***only after the enemy has started an attack*** [emphasis added]*."*

Yet, the authoritative work, *Science of Military Strategy*, makes it clear that the definition of an enemy strike is not limited to conventional, kinetic military operations. Rather, an enemy "strike" may also be defined in political terms. Thus:

> *"Striking only after the enemy has struck does not mean waiting for the enemy's strike passively.… It doesn't mean to give up the 'advantageous chances' in campaign or tactical operations,* ***for the 'first shot' on the plane of politics must be differentiated from the 'first shot' on that of tactics****.*
>
> [This section continues] *if any country or organization violates the other country's sovereignty and territorial integrity,* ***the other side will have the right to 'fire the first shot' on the plane of tactics*** [emphasis added]*."*

These passages illustrate the ambiguity of PRC strategic thinking, as well as the justification for offensive—or preemptive—military action at the operational and tactical level under the guise of a defensive posture at the strategic level.

Air Warfare. The PLAAF continues its conversion from a force for limited territorial defense to a more flexible and agile force able to operate off-shore in both offensive and defensive roles, using the U.S. and Russian air forces as models. Mission focus areas include: strike, air and missile defense, early warning and reconnaissance, and strategic mobility. The PLAAF also has a leading role in the "Joint Anti-Air Raid" campaign, which appears to form the basis for much of China's planning for anti-access and area-denial operations. Underscoring the ambiguity of offense and defense in PLA theory, the Joint Anti-Air Raid campaign is strategically defensive in nature, but at the operational and tactical levels, it calls for attacks against adversaries' bases and naval forces.

The PLA's new missions are also driving discussions about the future of the PLAAF, where a general consensus has emerged that protecting China's global interests requires an increase in the PLAAF's long-range transportation and logistics capabilities. There appears to be little public discussion about requirements to project combat air power far from China. As with the Navy, it is likely that the Air Force's primary focus for the coming decade will remain on building the capabilities required to pose a credible military threat to Taiwan and U.S. forces in East Asia, deter Taiwan independence, or influence Taiwan to settle the dispute on Beijing's terms.

Space Warfare. PLA strategists see space as central to enabling modern informatized warfare, but PLA doctrine does not appear to contemplate space operations as an operational "campaign" on its own; rather, space operations form an integral component of all campaigns. The PLA's military theoretical journal *China Military Science* argues that "it is in space that information age warfare will come into its more intensive points." Specifically, space-based communications, intelligence, and navigational systems are important to enable and coordinate joint operations and win modern wars. Accordingly, the PLA is acquiring technologies to improve China's space capabilities. A PLA analysis of U.S. and Coalition military operations reinforced the importance of operations in space to enable informatized warfare, claiming that "space is the commanding point for the information battlefield. Battlefield monitor and control, information communications, navigation and position, and precision guidance all rely on satellites and other sensors."

Concurrently, China is developing the ability to attack an adversary's space assets, accelerating the militarization of space. PLA writings emphasize the necessity of "destroying, damaging, and interfering with the enemy's reconnaissance ... and communications satellites," suggesting that such systems, as well as navigation and early warning satellites, could be among initial targets of attack to "blind and deafen the enemy." The same PLA analysis of U.S. and Coalition military operations also states that "destroying or capturing satellites and other sensors … will deprive the opponents of initiatives on the battlefield and [make it difficult] for them to bring their precision guided weapons into full play."

Integrated Network Electronic Warfare.

PRC military writings highlight the seizure of electromagnetic dominance in the early phases of a campaign as among the foremost tasks to ensure battlefield success. PLA theorists have coined the term "integrated network electronic warfare" (*wangdian yitizhan*—网电一体战) to describe the use of electronic warfare, computer network operations, and kinetic strikes to disrupt battlefield information systems that support an adversary's warfighting and power projection capabilities. PLA writings on future models of joint operations identify "integrated network electronic warfare" as one of the basic forms of "integrated joint operations," suggesting the centrality of seizing and dominating the electromagnetic spectrum in PLA campaign theory.

"Three Warfares"

In 2003, the CCP Central Committee and the CMC approved the concept of "Three Warfares" (*san zhong zhanfa*—三种战法), a PLA information warfare concept aimed at influencing the psychological dimensions of military activity:

- **Psychological Warfare** seeks to undermine an enemy's ability to conduct combat operations through psychological operations aimed at deterring, shocking, and demoralizing enemy military personnel and supporting civilian populations.
- **Media Warfare** is aimed at influencing domestic and international public opinion to build public and international support for China's military actions and to dissuade an adversary from pursuing policies perceived to be adverse to China's interests.
- **Legal Warfare** uses international and domestic laws to gain international support and manage possible political repercussions of China's military actions.

The concept of the "Three Warfares" is being developed for use in conjunction with other military and non-military operations. For example, China has incorporated the concept of Legal Warfare into its attempts to shape international opinion and interpretation of international law. An overwhelming majority of nations throughout the world, including the United States, believe that customary international law, as reflected in the UN Convention on the Law of the Sea (UNCLOS), effectively balances the resource-related sovereign rights of littoral states in their EEZ with the freedoms of navigation and overflight and other internationally lawful uses of the sea of other nations. This majority view is based upon a sound reading of the negotiating history of UNCLOS, the actual text of UNCLOS itself, and decades of state practice. The PRC, however, appears to be making concerted efforts, through enacting domestic legislation inconsistent with international law, misreading the negotiations and text of UNCLOS, and overlooking decades of state practice in attempts to justify a minority interpretation providing greater authority by littoral states over activities within the EEZ.

SECRECY AND DECEPTION IN PLA MILITARY STRATEGY

PRC military writings point to a working definition of strategic deception as "[luring] the other side into developing misperceptions … and [establishing 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." In addition to information operations and conventional camouflage, concealment, and denial, the PLA draws from China's historical experience and the traditional role that stratagem and deception have played in Chinese statecraft.

There is an inherent tension in Chinese strategic culture today, pitting a deep-seated tendency to conceal military capabilities and force development plans against a partial acceptance that too much secrecy tends to inflame regional and global anxiety about China's rising power. For over a decade PRC leaders have identified this "China threat theory" as a serious hazard to the country's international standing, threatening the development of a persistent alignment of regional and global powers in opposition to China. In addition, extreme secrecy is increasingly difficult to reconcile with China's role in the integrated global economy, which depends upon transparency and the free flow of information for success.

ASYMMETRIC WARFIGHTING

Since the 1991 Persian Gulf War and Operation ALLIED FORCE (1999), PLA strategists have emphasized the urgency of building force structure, strategies, and tactics around new or unexpected capabilities. They also have emphasized developing innovative strategies and tactics to employ with existing technologies and weapon systems to level the playing field against technologically superior opponents. An article published in the *Liberation Army Daily* in 1999 posits:

> *"[A] strong enemy with absolute superiority is certainly not without weakness…. [Our] military preparations need to be more directly aimed at finding tactics to exploit the weaknesses of a strong enemy."*

There are a number of areas where the PLA has adopted approaches to operational requirements that differ significantly from U.S. approaches to the same requirement. Examples include the heavy reliance on ballistic and cruise missiles, rather than stealth aircraft, to attack ground targets inside heavily defended airspace; an array of systems to attack intelligence, communications, and navigation satellites, seeking to neutralize the U.S. advantage in space; an approach to computer network exploitation that harvests huge volumes of data; an emphasis on offensive and defensive electronic warfare in recent years; and the "three warfares" doctrine.

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Chapter Three: Force Modernization Goals and Trends

OVERVIEW

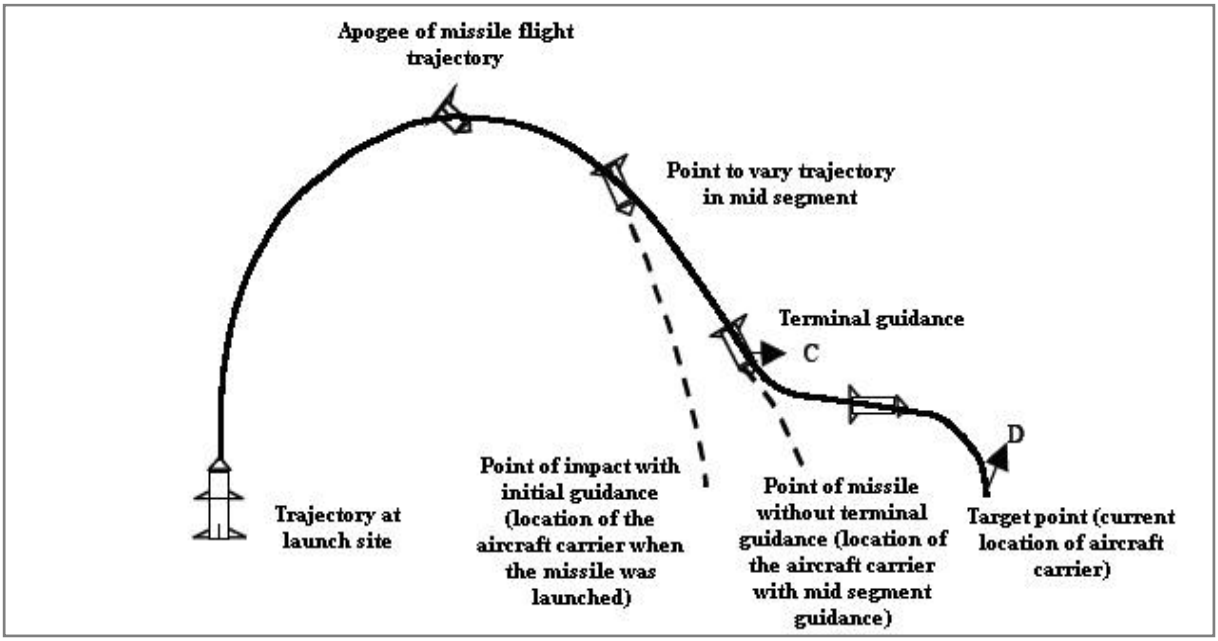
China's leaders have stated their intentions and allocated resources to pursue broad-based military transformation that encompasses force-wide professionalization; improved training; more robust, realistic joint exercises; and accelerated acquisition and development of modern conventional and nuclear weapons. It appears that China's military continues to focus on assuring the capability to deter moves toward Taiwan independence, or to influence Taiwan to settle the dispute on Beijing's terms, if Beijing were to decide to adopt such an approach.

While remaining focused on Taiwan as a primary mission, China will, by 2020, lay the foundation for a force able to accomplish broader regional and global objectives. By the latter half of this decade, it is likely that China will be able to project and sustain a modest sized force—perhaps several battalions of ground forces or a naval flotilla of up to a dozen ships—in low-intensity operations far from China. It is unlikely, however, that China will be able to project and sustain large forces in high-intensity combat operations far from China until well into the following decade.

Despite significant improvements, the PLA continues to face deficiencies in inter-service cooperation and actual experience in joint exercises and combat operations. Recognizing these shortcomings, China's leaders continue to stress asymmetric strategies to leverage China's advantages while exploiting the perceived vulnerabilities of potential opponents.

ANTI-ACCESS/AREA-DENIAL CAPABILITIES

As part of its planning for a Taiwan contingency, China continues to develop measures to deter or counter third-party intervention, including by the United States, in any future cross-Strait crisis. China's approach to dealing with this challenge is manifest in a sustained effort to develop the capability to attack, at long ranges, military forces that might deploy or operate within the western Pacific, which the Department of Defense characterizes as "anti-access" and "area denial" capabilities, respectively. China is pursuing a variety of air, sea, undersea, space and counterspace, and information warfare systems and operational concepts to achieve this capability, moving toward an array of overlapping, multilayered offensive capabilities extending from China's coast into the western Pacific. China's 2008 Defense White Paper asserts, for example, that one of the priorities for the development of China's armed forces is to "increase the country's capabilities to maintain maritime, space and electromagnetic space security."



Missile Flight Trajectory with Terminal Guidance. *This graphic of an anti-ship ballistic missile's use of mid-course and terminal guidance to strike an aircraft carrier appeared in a 2006 article from the Second Artillery Engineering College.*

An essential element, if not a fundamental prerequisite, of China's emerging anti-access/area-denial regime is the ability to control and dominate the information spectrum in all dimensions of the modern battlespace. PLA authors often cite the need in modern warfare to control information, sometimes termed "information blockade" or "information dominance," and to seize the initiative and gain an information advantage in the early phases of a campaign to achieve air and sea superiority. China is improving information and operational security to protect its own information structures, and is also developing electronic and information warfare capabilities, including denial and deception, to defeat those of its adversaries. China's "information blockade" likely envisions employment of military and non-military instruments of state power across the battlespace, including in cyberspace and outer space. China's investments in advanced electronic warfare systems, counter-space weapons, and computer network operations—combined with more traditional forms of control historically associated with the PLA and CCP systems, such as propaganda and denial through opacity, reflect the emphasis and priority China's leaders place on building capability for information advantage.

In more traditional domains, China's anti-access/area-denial focus appears oriented toward restricting or controlling access to China's periphery, including the western Pacific. China's current and projected force structure improvements, for example, will provide the PLA with systems that can engage adversary surface ships up to 1,000 nautical miles from the PRC coast. These include:

- Anti-Ship Ballistic Missiles: MRBMs designed to target forces at sea, combined with overhead and over-the-horizon targeting systems to locate and track moving ships.
- Conventional and nuclear-powered attack submarines: KILO, SONG, YUAN, and SHANG attack submarines capable of firing advanced ASCMs.
- Surface Combatants: LUYANG I/II, SOVREMENNYY-II, guided missile destroyers with advanced long-range anti-air and anti-ship missiles.

- Maritime Strike Aircraft: FB-7 and FB-7A and the SU-30 MK2, armed with ASCMs to engage surface combatants.

Similarly, current and projected systems will allow the PLA to strike regional air bases, logistical facilities, and other ground-based infrastructure. PRC military analysts have concluded that logistics and power projection are potential vulnerabilities in modern warfare, given the requirements for precision in coordinating transportation, communications, and logistics networks. China is fielding an array of conventionally armed ballistic missiles, ground- and air-launched land-attack cruise missiles, special operations forces, and cyber-warfare capabilities to hold targets at risk throughout the region.

Building Capacity for Conventional Precision Strike

Short-Range Ballistic Missiles (< 1,000 km). As of December 2009, the PLA had somewhere between 1,050-1,150 SRBMs, increasing its inventory at a slower rate than in past years. The oldest of these, fielded in the 1990s, do not possess true "precision strike" capability, but later versions have greater ranges, improved accuracy, and a variety of conventional payloads, including unitary and submunition warheads.

Medium-Range Ballistic Missiles (1,000-3,000 km). The PLA is acquiring conventional MRBMs to increase the range at which it can conduct precision strikes against land targets and naval ships, including aircraft carriers, operating far from China's shores out to the first island chain.

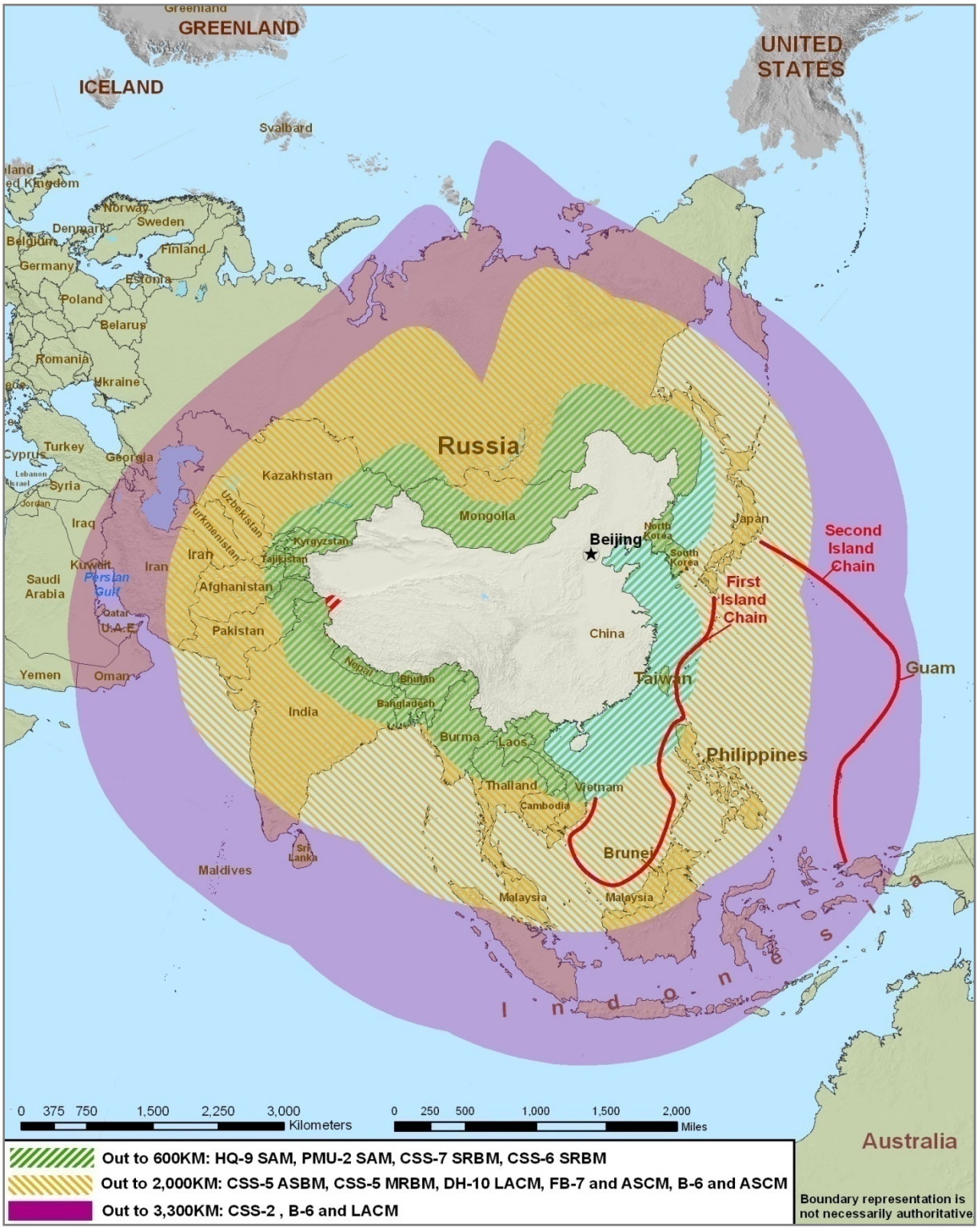
Land-Attack Cruise Missiles. The PLA is developing air- and ground-launched LACMs, such as the YJ-63, KD-88 and DH-10 systems for stand-off, precision strikes. As of December 2009 the PLA had 200-500 DH-10 ground-launched cruise missiles.

Ground Attack Munitions. The PLA Air Force has a small number of tactical air-to-surface missiles as well as precision-guided munitions including all-weather, satellite-guided bombs, anti-radiation missiles, and laser-guided bombs.

Anti-Ship Cruise Missiles. The PLA Navy has or is acquiring nearly a dozen ASCM variants, ranging from the 1950s-era CSS-N-2 to the modern Russian-made SS-N-22 and SS-N-27B. The pace of ASCM research, development and production within China and procurement from abroad—primarily Russia—has accelerated over the past decade.

Anti-Radiation Weapons. The PLA has imported Israeli-made HARPY unmanned combat aerial vehicles (UCAVs) and Russian-made anti-radiation missiles. China continues development on the Russian Kh-31P (AS-17) known as the YJ-91 and is starting to integrate this system into its fighter-bomber force.

Artillery-Delivered High Precision Munitions. The PLA is developing or deploying artillery systems with the range to strike targets within or even across the Taiwan Strait, including the A-100 300 mm multiple-rocket launcher (MRL) (100+ km range) and the WS-2 400 mm MRL (200 km range).



Conventional Anti-Access Capabilities. *The PLA's conventional forces are currently capable of striking targets well beyond China's immediate periphery. Not included are ranges for naval surface- and sub-surface-based weapons, whose employment at distances from China would be determined by doctrine and the scenario in which they are employed.*

The air and air defense component of anti-access/area-denial includes long-range advanced SAMs such as the Russian SA-10 and SA-20 PMU1/PMU2 as well as the indigenous HQ-9. Beijing will also use Russian-built and indigenously produced fourth-generation aircraft (e.g., Su-27 and Su-30 variants, and the indigenous F-10 multi-role fighter) to compete for local air dominance. The PLA Navy would employ Russian Su-30MK2 fighters, armed with AS-17/Kh-31A anti-ship missiles, and FB-7 fighter-bombers for maritime interdiction. Acquisition of an air refueling platform like the Russian IL-78 would extend operational ranges for PLAAF and PLA Navy strike aircraft armed with precision munitions, thereby increasing the threat to surface and air forces, bases, and logistics nodes distant from China's coast. Additionally, acquisition and development of longer-range UAVs and UCAVs, including the Israeli HARPY, expands China's options for long-range reconnaissance and strike.

China's existing long-range advanced SAM inventory has limited protection capability against ballistic missiles, and yet advertises a capability against cruise missiles. The Russian SA-10 and SA-20 PMU1/PMU2 make up the bulk of this capability. The SA-10 was originally designed to counter low-flying cruise missiles, and the capability has only been enhanced in the later model SA-20 systems. The SA-20 PMU2, the most advanced SAM Russia offers for export, also has the advertised capability to engage ballistic missiles with ranges of 1000km and speeds of 2800 m/s.

China's HQ-9 long-range SAM system is also advertised (through its export variant FD-2000) to protect against low-altitude cruise missiles and is expected to have a limited capability to provide point defense against tactical ballistic missiles with ranges up to 500 km. China is proceeding with the research and development of a missile defense "umbrella" consisting of kinetic energy intercept at exo-atmospheric altitudes (>80 km), as well as intercepts of ballistic missiles and other aerospace vehicles within the upper atmosphere.

EXTENDED OPERATIONAL REACH

In addition to preparing for a Taiwan contingency, the PLA has been developing new platforms and capabilities that will extend its operational reach to address other concerns within the East and South China Seas, and possibly to the Indian Ocean and beyond the second island chain in the western Pacific.

In describing the modernization tasks for each of the service arms, the 2008 Defense White Paper places emphasis on acquiring a capability to operate with great mobility and distance from China's mainland. The main avenues for the PLA to realize this capability are through its naval, ballistic missile, and air forces.

The PLA Navy: The PLA Navy is at the forefront of efforts to extend operational reach beyond China's regional waters. The PLA Navy's investment in platforms such as nuclear-powered submarines and progress toward its first aircraft carrier (a refurbished ex-Russian Kuznetsov-class carrier) suggest China is seeking to support additional missions beyond a Taiwan contingency. The PLA Navy has also demonstrated the capability to conduct limited deployments of modern surface platforms outside the second island chain, including four separate deployments to the Gulf of Aden to support counter-piracy operations as of December 2009. The PLA Navy also has acquired new classes of ships capable of supporting conventional military operations, as well as humanitarian assistance and disaster relief missions, including the Type 071 landing platform dock amphibious ship and the Type 920 hospital ship.

Second Artillery Corps: As detailed elsewhere in this report, China's ballistic missile force is acquiring conventional medium-range and intermediate-range ballistic missiles that extend the distance at which it can threaten other countries with conventional precision or near-precision strikes.

The PLA Air Force: The PLAAF is developing longer-range versions of the B-6/BADGER bomber that, when equipped with a

long-range land-attack cruise missile, will enable strikes as far as the second island chain. The PLAAF has, however, encountered difficulty expanding its fleet of long-range heavy transport aircraft. Neither Russian nor domestic PRC manufacturers have proven able to fill the PLAAF's requirement for long-haul transports in support of peacekeeping, disaster relief, and other requirements.

STRATEGIC CAPABILITIES

China has made steady progress in recent years to develop offensive nuclear, space, and cyber warfare capabilities—the only aspects of China's armed forces that currently could be used to pose a global threat. There is little evidence, however, that China's military and civilian leaders have fully thought through the global and systemic effects that would be associated with the employment of these strategic capabilities.

Nuclear Forces. China is both qualitatively and quantitatively improving its strategic missile forces. China's nuclear arsenal currently consists of approximately 20 silo-based, liquid-fueled CSS-4 ICBMs; approximately 30 solid-fueled, road-mobile DF-31 and DF-31A ICBMs; approximately 20 liquid-fueled, limited-range CSS-3 ICBMs; between 15 to 20 liquid-fueled CSS-2 intermediate-range ballistic missiles; CSS-5 road-mobile, solid-fueled MRBMs (for regional deterrence missions); and JL-1 submarine-launched ballistic missiles (SLBM) for the XIA-class SSBN, although the operational status of the XIA-class SSBN/JL-1 combination remains questionable.

By 2015, China's nuclear forces will include additional DF-31 and DF-31As, and enhanced CSS-4s, CSS-3s, and CSS-5s. The first of the new JIN-class (Type 094) SSBN appears ready, but the associated JL-2 SLBM appears to have encountered difficulty, failing several of what should have been the final round of flight tests. The date when the JIN-class SSBN/JL-2 SLBM combination will be operational is uncertain. China is also currently working on a range of technologies to attempt to counter U.S. and other militaries' ballistic missile defense systems, including maneuvering re-entry vehicles, MIRVs, decoys, chaff, jamming, thermal shielding, and anti-satellite (ASAT) weapons. PRC official media also cites numerous Second Artillery Corps training exercises featuring maneuver, camouflage, and launch operations under simulated combat conditions, which are intended to increase survivability. Together with the increased mobility and survivability of the new generation of missiles, these technologies and training enhancements strengthen China's nuclear deterrent and enhance its strategic strike capabilities.

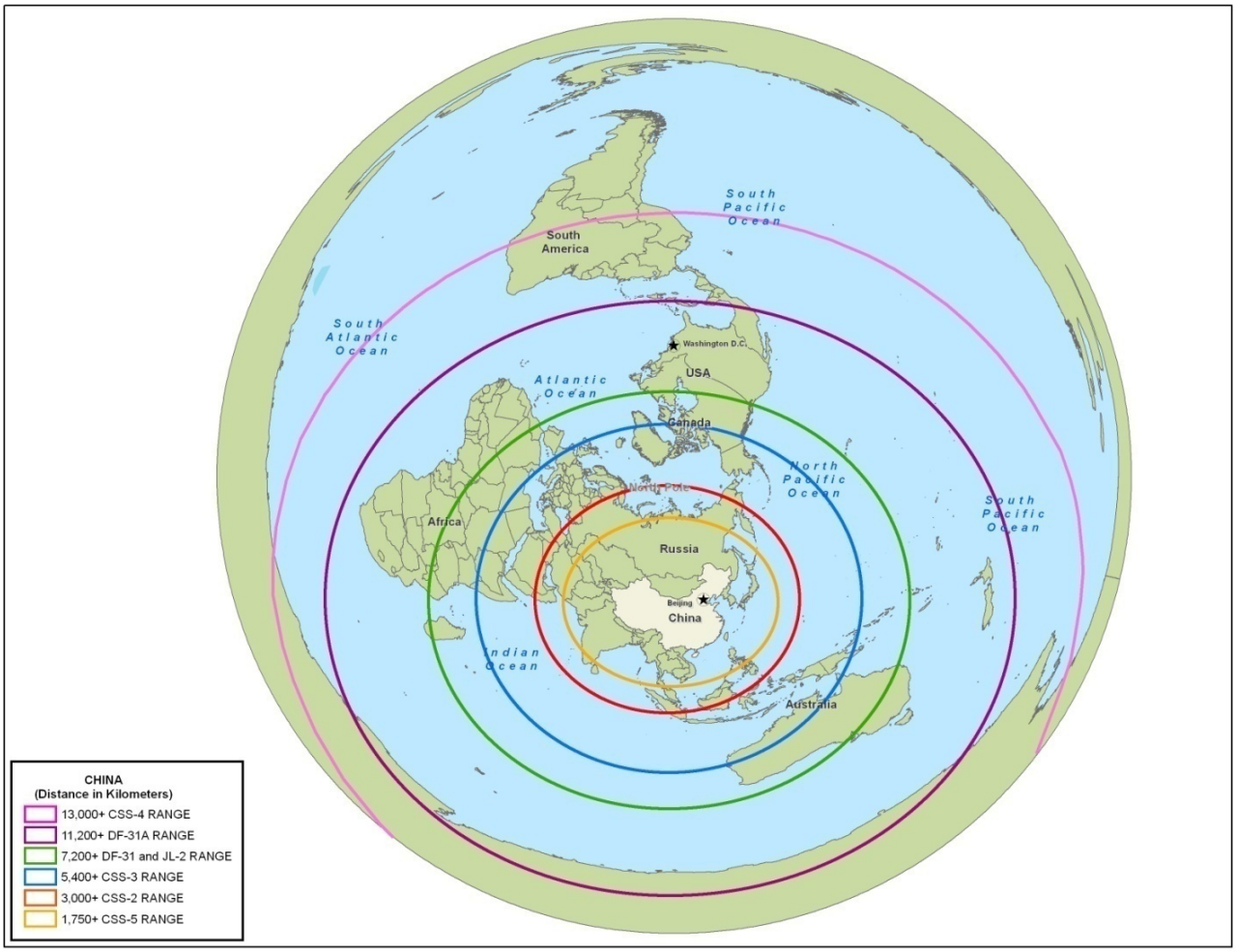
The introduction of more mobile systems will create new command and control challenges for China's leadership, which now confronts a different set of variables related to deployment and release authorities. For example, the PLA has only a limited capacity to communicate with submarines at sea, and the PLA Navy has no experience in managing a SSBN fleet that performs strategic patrols with live nuclear warheads mated to missiles. Land-based mobile missiles may face similar command and control challenges in wartime, although probably not as extreme as with submarines.

Beijing's official policy towards nuclear deterrence continues to focus on maintaining a nuclear force structure able to survive enemy attack and respond with sufficient strength to inflict unacceptable damage on the enemy. The new generation of mobile missiles, maneuvering and MIRV warheads, and penetration aids are intended to ensure the viability of China's strategic deterrent in the face of continued advances in U.S. and, to a lesser extent, Russian strategic intelligence, surveillance, and reconnaissance; precision strike; and missile defense capabilities.

Beijing has consistently asserted that it adheres to a "no first use" (NFU) policy, stating it would use nuclear forces only in response to a nuclear strike against China. China's NFU pledge consists of two parts—China will never use nuclear weapons first against any nuclear-

weapon state and China will never use or threaten to use nuclear weapons against any non-nuclear-weapon state or nuclear-weapon-free zone. However, there is some ambiguity over the conditions under which China's NFU policy would or would not apply, including for example, whether strikes on what China considers its own territory, demonstration strikes, or high altitude bursts would constitute a first use. Moreover, some PLA officers have written publicly of the need to spell out conditions under which China might need to use nuclear weapons—for example, if an enemy's conventional attack threatened the survival of China's nuclear force, or of the regime itself. However, there has been no indication that national leaders are willing to attach such nuances and caveats to China's "no first use" doctrine.

Beijing will likely continue to invest considerable resources to maintain a limited nuclear deterrence with regard to the United States, also referred to by some PRC writers as a "sufficient and effective" deterrent. Since Beijing views nuclear deterrence as crucial to its national security, it will continue to invest in technology and systems to ensure the PLA can deliver a damaging retaliatory nuclear strike.



Medium and Intercontinental Range Ballistic Missiles. *China 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.*

Space and Counterspace. China's space activities and capabilities, including ASAT programs, have significant implications for anti-access/area-denial in Taiwan Strait contingencies and beyond. Many of China's non-military space programs, including the manned program and the planned space station, are run by the PLA.

Reconnaissance: China is deploying imagery, reconnaissance, and Earth resource systems with military utility. Examples include the Yaogan-1, -2, -3, -4, -5, and -6, the Haiyang-1B, the CBERS-2B satellite, and the Huanjing disaster/environmental monitoring satellite constellation. China is planning eight satellites in the Huanjing program that are capable of visible, infrared, multi-spectral, and synthetic aperture radar imaging. In the next decade, even as Beijing fields a larger and more capable array of reconnaissance satellites, it probably will continue to employ commercial satellite imagery to supplement its coverage. China currently accesses high-resolution, electro-optical and synthetic aperture radar commercial imagery from all of the major providers including Spot Image (Europe), Infoterra (Europe), MDA (Canada), Antrix (India), GeoEye (United States), and Digital Globe (United States).

Manned Space: China's most recent manned mission, Shenzhou-7, launched on September 25, 2008, and successfully conducted China's first spacewalk. China will continue its manned space program, including both manned and unmanned docking, with the final goal of a permanently manned space station by 2020.

Navigation and Timing: China is pursuing several avenues to reduce its dependence on any single foreign-owned satellite navigation system. Currently, the PRC uses the U.S. global positioning system (GPS), Russia's GLONASS, and its own BeiDou-1 system for navigation. The BeiDou-1 consists of three satellites and serves both civil and military purposes, but its orbital configuration covers only the East Asian region. The BeiDou-1 system will be replaced by a more capable, but still regionally constrained, BeiDou-2 system that is expected to become operational in 2011. The initial BeiDou-2 constellation will become part of a more advanced BeiDou-2/Compass system with global coverage, expected in the 2015-2020 timeframe.

Communications: China uses communications satellites for both regional and international telecommunications in support of civil and military users, including satellite television, internet, and telephony. China also maintains a single data-relay satellite launched in mid-2008, the TianLian-1. Along with regional development of related technologies, China has recently entered the world market by exporting satellites and infrastructure to Venezuela and Nigeria. Although the satellite built and launched for Nigeria failed, China continues to market its services worldwide, to customers such as Pakistan, Bolivia, Laos, and Vietnam.

ASAT Weapons: In January 2007, China successfully tested a direct-ascent ASAT weapon against a PRC weather satellite, demonstrating its ability to attack satellites in low-Earth orbit. China continues to develop and refine this system, which is one component of a multi-dimensional program to limit or prevent the use of space-based assets by potential adversaries during times of crisis or conflict.

China's nuclear arsenal has long provided Beijing with an inherent ASAT capability, although a nuclear explosion in space would also damage China's rapidly multiplying space assets, along with those of whomever it was trying to target. Foreign and indigenous systems give China the capability to jam common satellite communications bands and GPS receivers. In addition to the direct-ascent ASAT program, China is developing other technologies and concepts for kinetic and directed-energy (e.g., lasers, high-powered microwave, and particle beam) weapons for ASAT missions. Citing the requirements of its manned and lunar space programs, China is improving its ability to track and identify satellites—a prerequisite for effective, precise counterspace operations.

Information Warfare. There has been much writing on information warfare among China's military thinkers, who indicate a strong conceptual understanding of its methods and uses. For example, a November 2006 *Liberation Army Daily* commentary outlines:

> *[The] mechanism to get the upper hand of the enemy in a war under conditions of informatization finds prominent expression in whether or not we are capable of using various means to obtain information and of ensuring the effective circulation of information; whether or not we are capable of making full use of the permeability, sharable property, and connection of information to realize the organic merging of materials, energy, and information to form a combined fighting strength; [and,] whether or not we are capable of applying effective means to weaken the enemy side's information superiority and lower the operational efficiency of enemy information equipment.*

The PLA is investing in electronic countermeasures, defenses against electronic attack (e.g., electronic and infrared decoys, angle reflectors, and false target generators), and computer network operations (CNO). China's CNO concepts include computer network attack, computer network exploitation, and computer network defense. 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. These units include elements of the militia, creating a linkage between PLA network operators and China's civilian information technology professionals. Under the rubric of Integrated Network Electronic Warfare, the PLA seeks to employ both computer network operations and electronic warfare to deny an adversary access to information essential to conduct combat operations.

POWER PROJECTION—MODERNIZATION BEYOND TAIWAN

China continues to invest in military programs designed to improve extended-range power projection. Current trends in China's military capabilities are a major factor in changing East Asian military balances, and could provide China with a force capable of conducting a range of military operations in Asia well beyond Taiwan. China's political leaders have also charged the PLA with developing capabilities for military operations other than war such as peacekeeping, disaster relief, and counter-terrorism operations. These capabilities hold the potential to make positive contributions in the delivery of international public goods, but also increase Beijing's options for military coercion to gain diplomatic advantage, advance interests, or resolve disputes in its favor.

Analysis of China's weapons development and deployment patterns suggests Beijing is already looking at contingencies beyond Taiwan as it builds its force. For example, new missile units outfitted with conventional, theater-range missiles at various locations in China could be used in a variety of non-Taiwan contingencies. AEW&C and aerial-refueling programs would permit extended air operations into the South China Sea. Advanced destroyers and submarines could protect and advance China's maritime interests up to and beyond the second island chain. China's expeditionary forces (three airborne divisions, two amphibious infantry divisions, two marine brigades, and about seven special operations groups) are improving with the introduction of new equipment, better unit-level tactics, and greater coordination of joint operations. 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 military activities deep into the western Pacific Ocean.

China's increasing focus on humanitarian assistance and disaster relief missions will require a unique set of technological developments and aircraft acquisitions, including strategic airlift, to support these missions. Although these capabilities would be necessary to support an immediate need, such as an earthquake or other natural disaster, they would also enhance its ability to support military operations along and beyond its borders.

India. China has deepened its ties with India through increased trade, high-level dialogues, and an improved military-to-military relationship. China and India agreed to boost trade from $11.4 billion in 2007 to $40 billion in 2010, and they have held several rounds of dialogue over disputed territorial claims. Sino-Indian defense ties were institutionalized in 2007 with the establishment of an Annual Defense Dialogue and by conducting three bilateral defense exercises since 2007. Nonetheless, Beijing remains concerned with persistent disputes along China's shared border with India and the strategic ramifications of India's rising economic, political, and military power. To improve regional deterrence, the PLA has replaced older liquid-fueled, nuclear-capable CSS-3 intermediate-range ballistic missiles with more advanced and survivable solid-fueled CSS-5 MRBMs and may be developing contingency plans to move airborne troops into the region. China is currently investing in road development along the Sino-Indian border primarily to facilitate economic development in western China; improved roads would also support PLA border defense operations.

Russia. Beijing continues to view Moscow as its closest international partner, yet remains concerned that Russia's long-term interests are not wholly consistent with China's. Sino-Russia bilateral cooperation continues on many international issues, especially in Central Asia where the two jointly manage the Shanghai Cooperation Organization (SCO). Despite this cooperation, Russia has concerns about the implications of China's rise, while PLA strategists view Russia as a potential long-term military challenge. Although China shifted its strategic orientation to the south and east following the collapse of the Soviet Union, Beijing retains significant force structure in the Lanzhou, Beijing, and Shenyang Military Regions, in addition to its conventional and strategic missile forces, to maintain deterrence.

Central Asia. China's primary interests in Central Asia are centered on building regional influence, obtaining natural resources and energy, and countering support for China's Uighur separatists. Beijing has reached agreements with many Central Asian governments to build the infrastructure necessary to transport resources into western China, such as a pipeline that will stretch from Turkmenistan through Uzbekistan and Kazakhstan into China. Beijing has also conducted bilateral and multilateral exercises with SCO member states to enhance China's influence within the SCO and to build cohesive regional opposition to Uighur activities. Internal security forces in Xinjiang could be used in Central Asian contingencies, and army aviation and trans-regional mobility operations could be applied to deploy combat power rapidly to the region in a crisis.

South China Sea. Tensions over disputed claims in the South China Sea resurfaced in 2007 following almost five years of relative stability in the region. Competition for resources, including oil and gas reserves, and fishing resources most likely fueled the rising tension, although other factors, such as nationalism, also contributed. China's primary interests in the South China Sea are related to securing its extensive sovereignty claims in the region and exercising its rights as they relate to exploiting regional natural resources. Additionally, a stronger regional military presence would position China for force projection, blockade, and surveillance operations to influence the critical sea lanes in the region—through which some 50 percent of global merchant traffic passes. The combination of these interests likely contributes to China's sensitivity over the presence of

foreign military assets conducting routine military operations in waters beyond China's territorial limits.

In response to the 2004 articulation of the PLA's "New Historic Missions," China's senior military leaders began developing concepts for an expanded regional maritime strategy and presence. For example, in 2006, PLA Navy Commander Wu Shengli called for a "powerful navy to protect fishing, resource development and strategic passageways for energy." Many of these ideas echo the debates in the late 1980s and early 1990s over building PLA naval capabilities. However, the rise of Taiwan contingency planning as the dominant driver of PLA force modernization in the mid-1990s, and especially after 2001, largely sidelined these discussions. China's probable plans to base the Type 094 SSBN (JIN-class) at Hainan Island raises the potential that the PLA Navy would consider conducting strategic patrols in the waters of the South China Sea requiring Beijing to provide for a more robust conventional military presence to ensure the protection of its sea-based deterrent. Such an increased PLA presence including surface, sub-surface, and airborne platforms, and possibly one or more of China's future aircraft carriers, would provide the PLA with an enhanced extended range power projection capability and could alter regional balances, disrupting the delicate status quo established by the 2002 Declaration on the Conduct of the Parties in the South China Sea.

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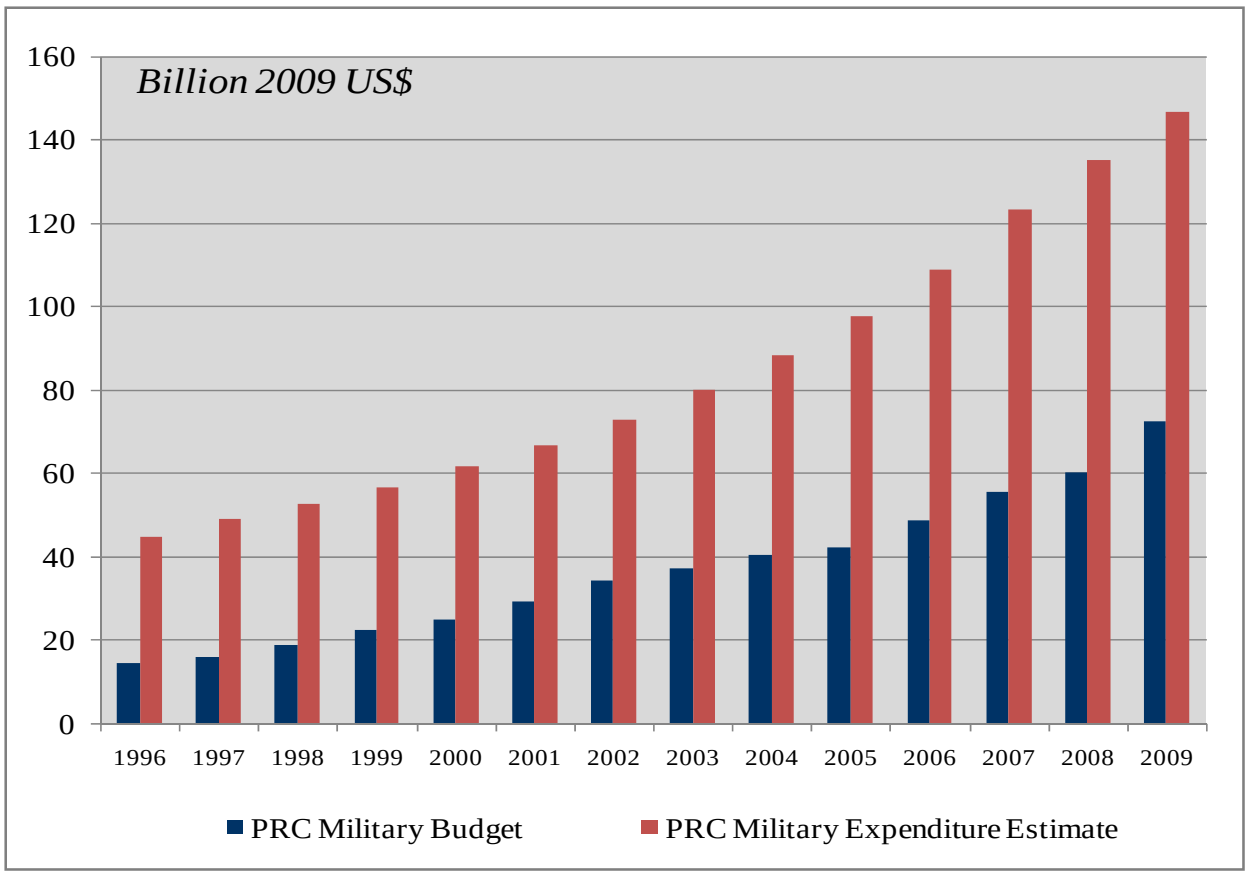
Chapter Four: Resources for Force Modernization

OVERVIEW

China's leaders can draw from a diverse range of sources to support PLA modernization, including: domestic defense investments, indigenous defense industrial development, a growing research and development and science and technology base, dual-use technologies, and foreign technology acquisition. The PLA has decreased reliance on foreign weapons acquisitions as China's defense-industrial and research bases mature. However, the PLA still looks to Russia to fill near-term capability gaps, despite an increasing, but economically conflicted, reluctance on the part of the Russians to do so. China continues to leverage foreign investments, commercial joint ventures, academic exchanges, the experience of repatriated PRC students and researchers, and state-sponsored industrial/technical espionage to increase the level of technologies and expertise available to support military research, development, and acquisition. Beijing's long-term goal is to create a wholly indigenous defense industrial sector, augmented by a strong commercial sector, to meet the needs of PLA modernization and to compete as a top-tier producer in the global arms market.

MILITARY EXPENDITURE TRENDS

On March 4, 2010, Beijing announced a 7.5 percent increase in its military budget to approximately $78.6 billion. This increase continues more than two decades of sustained annual increases in China's announced military budget. The priority China's leaders place on resourcing the armed forces does not appear to have been affected by the international financial downturn, despite potential declines in the economy and government tax revenue. Analysis of 2000-2009 data indicates China's officially disclosed military budget grew at an average of 11.8 percent in inflation-adjusted terms over the period, while gross domestic product (GDP) grew at 9.6 percent. Although the military budget increases are slightly larger than the percentage increases of its overall economic growth, the actual change in the implied burden of the official defense budget on the economy has been negligible. The announced increase for 2010 is the smallest annual increase since 1995. However, budget growth tends to slow in the last year of each Five-Year Program, and the defense budget growth is still higher than central government budget growth.



China's Annual Real GDP and Military Budget Growth, 2000 - 2009.

PEOPLE'S REPUBLIC OF CHINA (millions of US$) ***FISCAL YEAR: 2008***

				Total	
	Active Forces	***Reserve Forces***	***Militia***	***Amount***	***Percentage (%)***
Personnel	19,950	175	0	20,125	33.47
Training & Maintenance	18,599	247	1,149	19,989	33.24
Equipment	19,677	187	158	20,022	33.29
Total	**58,221**	**608**	**1,307**	**60,136**	**100**

Notes:

- Data drawn from China's July 2009 report to the United Nations.
- Personnel expenses cover salaries, allowances, food, clothing and bedding, insurance, welfare benefits and pensions for officers, non-ranking cadres, enlisted men, and contracted civilians.
- Training and maintenance expenses cover troop training, institutional education, and running and development of daily work and activities.
- Equipment expenses cover research and development, procurement, maintenance, and transportation and storage of weaponry and equipment.

PRC Submission to United Nations on Military Expenditures, 2009.

Estimating China's Actual Military Expenditures. The Department of Defense estimates China's total military-related spending for 2009 to be over $150 billion, using 2009 prices and exchange rates.

Estimating actual PLA military expenditures is a difficult process due to the lack of accounting transparency and China's still incomplete transition from a command economy. Moreover, China's published military budget does not include major categories of expenditure. China's legislature has not made public any details of the role, if any, that it plays in exercising oversight of the PLA budget.

The United States and other countries have urged China to increase transparency in military spending. In July 2009, China submitted a report on its military expenditures to the UN Secretary General—the second such report in as many years. China's report was submitted in the UN Simplified Reporting Form, which provides minimal information on major budget categories, in contrast to the more detailed Standardized Reporting Form used by countries practicing greater defense transparency.

CHINA'S ADVANCING DEFENSE INDUSTRIES

Since the late 1990s, China's state-owned defense and defense-related companies have undergone a broad-based transformation. Beijing is improving business practices, streamlining bureaucracy, broadening factory worker opportunities and incentives, shortening development timelines, boosting quality control, and increasing production capacity for military orders. Beijing is also emphasizing integration of defense and non-defense sectors to leverage the latest dual-use technologies and the output from China's expanding science and technology base. Augmented by direct acquisition of foreign weapons and technology, these reforms have enabled China to develop and produce advanced weapon systems that incorporate mid-1990s technology in many areas, and some systems – particularly ballistic missiles – that rival any in the world today.

Civil-Military Integration. Development of innovative dual-use technology and an industrial base that serves both military and civilian needs is among the highest priorities of China's leadership. President Hu expressed in his political report to the CCP's 17th Party Congress:

> *We must establish sound systems of weapons and equipment research and manufacturing … and combine military efforts with civilian support, build the armed forces through diligence and thrift, and blaze a path of development with Chinese characteristics featuring military and civilian integration.*

China's defense industry has benefited from integration with China's rapidly expanding civilian economy and science and technology sector, particularly elements that have access to foreign technology. Progress within individual defense sectors appears to be linked to the relative integration of each—through China's civilian economy—into the global production and research and development (R&D) chain. For example, the shipbuilding and defense electronics sectors, benefiting from China's leading role in producing commercial shipping and information technologies, have witnessed the greatest progress over the last decade. Information technology companies, including Huawei, Datang, and Zhongxing, maintain close ties to the PLA and collaborate on R&D.

In contrast, enterprises producing high-performance computers, advanced applications software, and specialized top-end semiconductors/microprocessors—key to the evolution of increasingly advanced and capable defense microelectronics and applications, but with limited or no counterparts in the PRC civil-industrial sector—have experienced slower progress. The aviation and ordnance sectors have similarly suffered from a limited number of spin-off benefits, despite

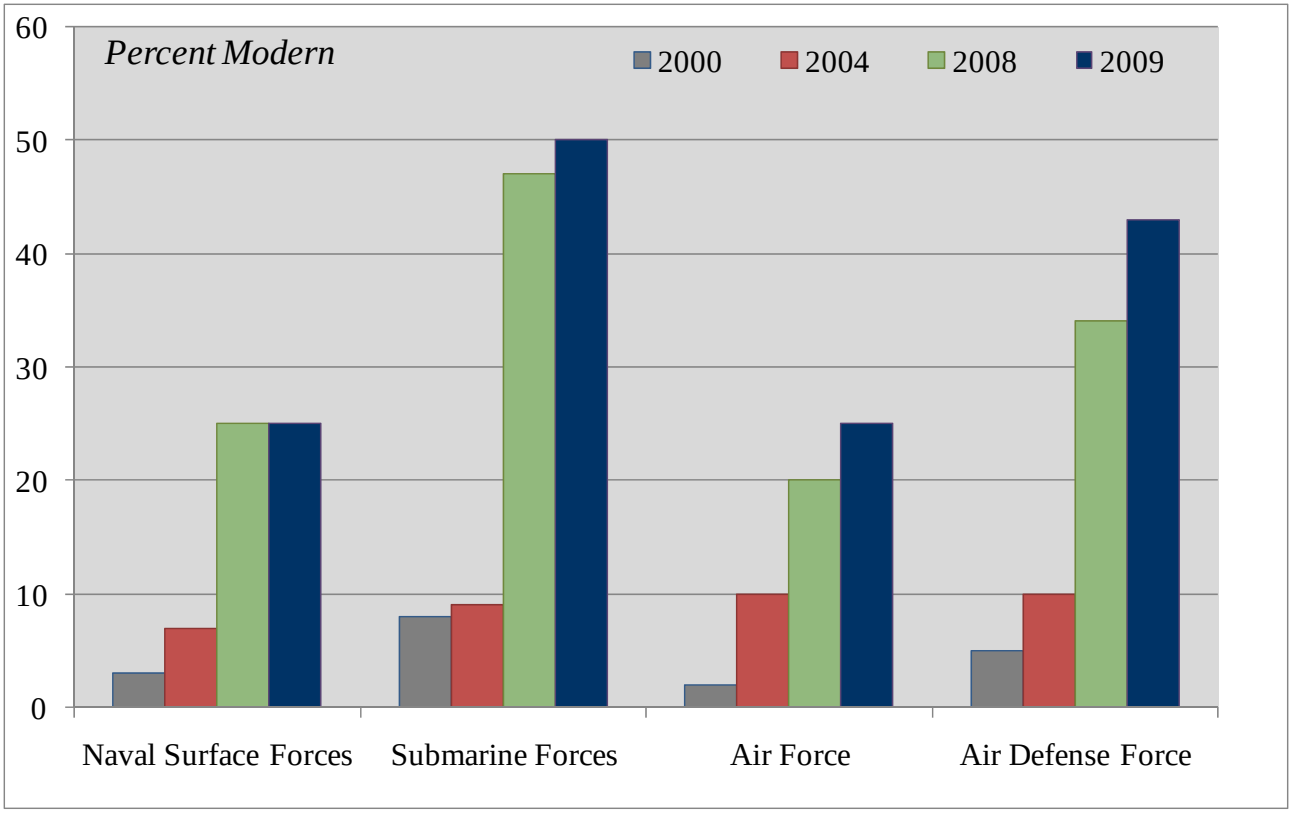
partnerships between foreign multinational corporations and domestic industry.

Sector-by-Sector Analysis. Progress across China's defense industry sectors has been uneven. Production trends and resource allocation appear to favor missile and space systems, followed by maritime assets (both surface and sub-surface), aircraft, and ground force materiel. In all areas, China is increasing the quality of its output and surge production capabilities, if not capacities. However, many of China's most advanced systems are still based heavily on foreign designs copied through reverse engineering, highlighting a persistent weakness in China's capability for overall system design and integration.

Missile and Space Industry: China produces a broad range of sophisticated ballistic, cruise, air-to-air, and surface-to-air missiles. Many of China's primary final assembly and rocket motor production facilities have received upgrades over the past few years, likely increasing production capacity. In addition to supplying China's military, complete systems and missile technologies could also be marketed for export. Surge production for these systems could result in a significantly higher output of SRBMs and perhaps double the number of MRBMs per year. China's space launch vehicle industry is expanding to support satellite launch services and the manned space program.

Shipbuilding Industry: China operates a vibrant and globally competitive shipbuilding industry. China is the second largest shipbuilder in the world. Shipyard expansion and modernization have increased China's shipbuilding capacity and capability, generating benefits for all types of military projects, including: submarines; surface combatants; naval aviation, including aircraft carriers; and lift assets. China continues to rely on foreign suppliers for some propulsion units and, to a lesser degree, fire control systems, cruise missiles, ship-to-air missiles, torpedo systems, sensors, and other advanced electronics. Modular shipbuilding techniques will allow China to spread production across multiple locations, increasing both efficiency and output. China has already demonstrated an ability to surge submarine and amphibious production.

Armament Industry: China's ground force modernization includes production of new tanks, armored personnel carriers, and artillery pieces. There have been advances in almost every area of PLA ground forces with new production capacity to accommodate surge requests. China's reliance on foreign partners to fill gaps in critical technical capabilities could still limit actual surge output.



Select PLA Modernization Areas, 2000–2009. *This graphic compares the share of modern[i] operational systems within the PLA in 2000, 2004, 2008, and 2009.*

[i] For surface combatants "modern" is defined as multi-mission platforms with significant capabilities in at least two warfare areas. "Modern" for submarines is defined as those platforms capable of firing an anti-ship cruise missile. For air forces, "modern" is defined as 4th generation platforms (Su-27, Su-30, F-10) and platforms with 4th generation-like capabilities (FB-7). "Modern" SAMs are defined as advanced Russian systems (SA-10, SA-20), and their PRC indigenous equivalents (HQ-9).

Aviation Industry: China's commercial and military aviation industries have advanced from producing direct copies of early Soviet models to developing and producing indigenous aircraft. These include improved versions of older aircraft and modern fourth generation fighters. China's commercial aircraft industry has imported high-precision and technologically advanced machine tools, electronics, and other components that can also be used in the production of military aircraft. However, China's ability to surge production in the aircraft industry will be limited by its reliance on foreign sourcing for aircraft engines and avionics, as well as the availability of skilled personnel and facilities.

Foreign Technology Acquisition. Key areas where China continues to rely most heavily on foreign technologies include: guidance and control systems, turbine engine technology, and enabling technologies such as precision machine tools, advanced diagnostic and forensic equipment, applications and processes essential to rapid prototyping, and computer-assisted design/manufacturing. China often pursues these foreign technologies for the purpose of reverse engineering.

Russia in recent years has been China's primary weapons and materiel provider, selling Beijing advanced fighter aircraft, missile systems, submarines, and destroyers. Relying on Russian components for several of its production programs, China purchased production rights to Russian weapon designs and is negotiating the purchase of several advanced systems. Additionally, Russia cooperates with China on technical, design, and material support for numerous weapons and space systems.

Israel previously supplied advanced military technology to China, but has reformed its export control regime through the passage of a Defense Export Control Act in July 2007 and the adoption of implementing regulations in December 2007.

Since 2003, China has been pressuring the European Union (EU) Member States to lift the embargo on lethal military sales to China that the EU imposed in response to China's 1989 crackdown on Tiananmen Square demonstrators. In their Joint Statement following the 2004 EU-China Summit, European and PRC leaders committed to work towards lifting the embargo. Although the issue officially remains on the EU agenda, there is no consensus among the EU Member States on lifting the embargo in the near future.

In addition, economic espionage, supported by extensive open source research, computer network exploitation, and targeted intelligence operations also obtain technologies to supplement indigenous military modernization efforts.

In its 2008 report, *Targeting U.S. Technologies: A Trend Analysis of Reporting From Defense Industry*, the Defense Security Service (DSS) found that in the previous year, foreign collectors, including the PRC, attempted to obtain information and technologies from each of the 20 categories of the Developing Sciences and Technologies List (DSTL). The DSTL is a compendium of scientific and technological capabilities being developed worldwide that have the potential to enhance or degrade U.S. military capabilities significantly in the future.

The DSS report described China's science and technology collection priorities as: guidance and control systems, advanced energy technologies, nanotechnology, space and counterspace systems, nuclear forces, innovative materials, aeronautics and astronautic mechanisms, computer-aided manufacturing and design, and information technologies. The PRC continues to target these technologies.

The U.S. Department of Commerce's Bureau of Industry and Security and the Department of Justice identified at least 26 major cases since 2006 linking China to the acquisition of technologies and applications cited above, as well as to current and future warship technology, electronic propulsion systems, controlled power amplifiers with military applications, space launch technical data and services, C-17 aircraft, Delta IV rockets, infrared cameras, information related to cruise missile design, and military-grade accelerometers. Additional technologies cited in these cases consisted of microwave integrated circuits; weapons scopes; restricted night-vision equipment and data; satellite/missile thermal insulation blankets; controlled electronic components; traveling wave tubes used with satellite and radar systems; microwave amplifiers with radar applications; export controlled technical data related to plasma technology for UAVs; carbon fiber material for aircraft, rockets, spacecraft, and the uranium enrichment process; and, extended range programmable logic devices.

The PRC's continuing efforts to acquire U.S. military and dual-use technologies are enabling the PRC science and technology base to diminish the U.S. technological edge in areas critical to the development of military weapons and communications systems. Additionally, the technologies China has acquired could be used to develop more advanced technologies by shortening PRC R&D cycles.

LOOKING TO THE FUTURE: TRENDS AND PROJECTIONS

China's *National Medium- and Long-Term Program for Science and Technology Development* (2006-2020), issued by the State Council in February 2006, seeks to transform China into an "innovation-oriented society by 2020." The plan defines China's science and technology focus in terms of "basic research," "leading-edge technologies," "key fields and priority subjects," and "major special items"—all of which have military applications.

Basic Research. As part of a broad effort to expand basic research capabilities, China identified five areas that have military applications as major strategic needs or science research plans requiring active government involvement and funding:

- Material design and preparation;
- Manufacturing in extreme environmental conditions;
- Aeronautic and astronautic mechanics;
- Information technology development; and
- Nanotechnology research.

In nanotechnology, China has progressed from virtually no research or funding in 2002 to being a close second to the United States in total government investment.

Leading-edge Technologies. China is focusing on the following technologies for rapid development:

- ***Information Technology:*** Priorities include intelligent perception technologies, ad hoc networks, and virtual reality technologies;
- ***New Materials:*** Priorities include smart materials and structures, high-temperature superconducting technologies, and highly efficient energy materials technologies;
- ***Advanced Manufacturing:*** Priorities include extreme manufacturing technologies and intelligent service advanced machine tools;
- ***Advanced Energy Technologies:*** Priorities include hydrogen energy and fuel cell technologies, alternative fuels, and advanced vehicle technologies;
- ***Marine Technologies:*** Priorities include three-dimensional maritime environmental monitoring technologies, fast, multi-parameter ocean floor survey technologies, and deep-sea operations technologies; and,
- ***Laser and Aerospace Technologies*** are also high priorities.

Key Fields and Priority Subjects. China has identified certain industries and technology groups with potential to provide technological breakthroughs, remove technical obstacles across industries, and improve international competitiveness. Specifically, China's defense industries are pursuing advanced manufacturing, information technology, and defense technologies. Examples include radar, counterspace capabilities, secure C4ISR, smart materials, and low-observable technologies.

Major Special Items. China has also identified 16 "major special items" for which it plans to develop or expand indigenous capabilities. These include core electronic components; high-end universal chips and operating system software; very large-scale integrated circuit manufacturing; next-generation broadband wireless mobile communications; high-grade numerically controlled machine tools; large aircraft; high-resolution satellites; manned spaceflight; and lunar exploration.

Status of Aircraft Carrier Developments

China has an aircraft carrier research and design program, which includes continued renovations to the former Soviet Kuznetsov-class Hull-2, the ex-VARYAG. Beginning in early 2006 with the release of China's 11th Five Year Plan (2006-2010), PRC-owned media reported high-level government and military official statements on China's intent to build aircraft carriers. In April 2009 PRC Navy Commander Admiral Wu Shengli stated that "China will develop its fleet of aircraft carriers in a harmonious manner. We will prudently decide the policy [we will follow with regard to building aircraft carriers]. I am willing to listen to the views of experts from the navies of other countries and to seek opinions from our country." While meeting with Japanese Defense Minister Yasukazu Hamada in March 2009, PRC Minister of Defense General Liang Guanglie stressed that China is the only big nation that does not have aircraft carriers and stated that "China cannot be without aircraft carriers forever."

China continues to show interest in procuring Su-33 carrier-borne fighters from Russia. Since 2006 China and Russia had been in negotiations for the sale of 50 Su-33 Flanker-D fighters at a cost of up to $2.5 billion. These negotiations reportedly stalled after Russia refused a request from China for an initial delivery of two trial aircraft. Russian defense ministry sources confirmed that the refusal was due to findings that China had produced its own copycat version of the Su-27SK fighter jet.

The PLA Navy has reportedly decided to initiate a program to train 50 navy pilots to operate fixed-wing aircraft from an aircraft carrier. In May 2009, Brazilian Defense Minister Nelson Jobim announced that the Brazilian Navy would provide training to PLA Navy officers in aircraft carrier operations.

Analysts in and out of government project that China will not have an operational, domestically produced carrier and associated ships before 2015. However, changes in China's shipbuilding capability and degree of foreign assistance to the program could alter those projections. In March 2009, PLA Navy Admiral Wu Huayang stated that "China is capable of building aircraft carriers. We have such strength. Building aircraft carriers requires economic and technological strength. Given the level of development in our country, I think we have such strength." The PLA Navy is considering building multiple carriers by 2020.

Chapter Five: Force Modernization and Security in the Taiwan Strait

OVERVIEW

Security in the Taiwan Strait is largely a function of dynamic interactions between and among mainland China, Taiwan, and the United States. In this context, over the course of 2009, the security situation in Taiwan remained, for the most part, unchanged. On the mainland, Beijing's strategy toward Taiwan continued to incorporate elements of persuasion and coercion to deter or repress the development of political attitudes in Taiwan favoring independence. The two sides made progress in expanding cross-Strait trade and economic links, as well as people-to-people contacts. Beijing's decision to not oppose Taiwan's meaningful participation in certain international organizations that do not require statehood for membership, such as the World Health Assembly, addressed in limited terms Taiwan's expressed desire for greater international space.

Alongside positive public statements about the Taiwan Strait situation from top leaders in Beijing following the election of Taiwan President Ma Ying-jeou, however, there have been no signs that Beijing's military dispositions opposite Taiwan have changed significantly.

The PLA has developed and deployed military capabilities to coerce Taiwan or to attempt an invasion, if necessary. These improvements pose new challenges to Taiwan's security, which has been based historically upon the PLA's inability to project power across the 100 nautical mile Taiwan Strait, natural geographic advantages of island defense, Taiwan's armed forces' technological superiority, and the possibility of U.S. intervention.

For its part, Taiwan has taken important steps to build its war reserve stocks, as well as improve its defense industrial base, joint operations capability, crisis response, and officer and non-commissioned officer (NCO) corps. These improvements have, on the whole, reinforced Taiwan's natural defensive advantages in the face of Beijing's continuous military build-up. Following the release of its first Quadrennial Defense Review in March 2009, Taiwan has also focused on creating an all-volunteer military and reducing its active military end-strength from 275,000 to 215,000 personnel to create a "small but smart and strong force," while maintaining its defense budget at three percent of its GDP. Under this plan, which it plans to complete by December 2014, the cost difference of a smaller force will free up resources to increase volunteer salaries and benefits.

The U.S. Government opposes unilateral changes to the status quo in the Taiwan Strait by either side, and calls for peaceful resolution of cross-Strait differences in a manner acceptable to the people on both sides. Consistent with the Taiwan Relations Act [Public Law 96-8 (1979)], the United States has helped to maintain peace, security, and stability in the Taiwan Strait by providing defense articles and services to support Taiwan's self-defense. In furtherance of this end, in January 2010, the Obama Administration announced its intent to sell to Taiwan $6.4 billion in defensive arms and equipment, including: UH-60 utility helicopters; PATRIOT PAC-3 air and missile defense systems; HARPOON training missiles; Multifunctional Information Distribution Systems technical support for Taiwan's *Po-sheng* C4ISR system; and OSPREY-class minehunting ships. In addition, the U.S. Department of Defense, through transformation of the U.S. Armed Forces and global force posture realignments, is maintaining the capacity of the United States to defend against Beijing's use of force or coercion against Taiwan.

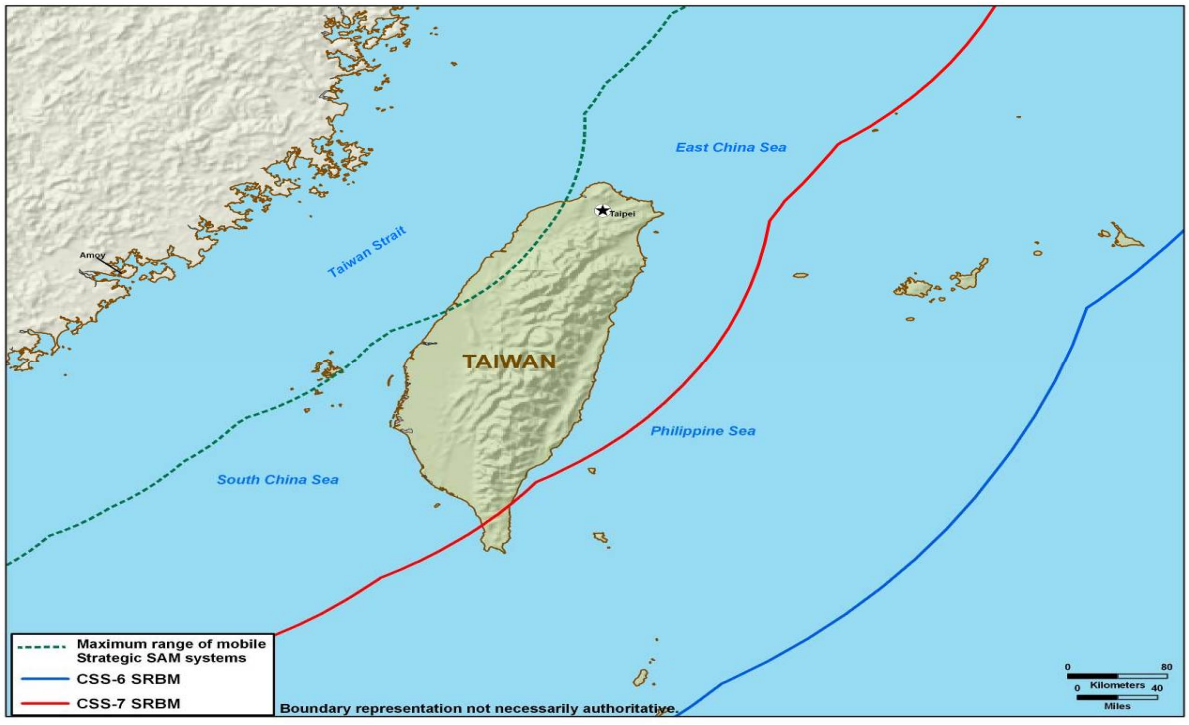
BEIJING'S STRATEGY IN THE TAIWAN STRAIT

Beijing appears prepared to defer the use of force, as long as it believes that long-term reunification remains possible and the costs of conflict outweigh the benefits. Beijing argues that the credible threat to use force is essential to maintain the conditions for political progress, and to prevent Taiwan from making moves toward *de jure* independence. Beijing has refused for decades to renounce the use of force to resolve the Taiwan issue, despite simultaneously professing its desire for peaceful unification under the principle of "one country, two systems."

The circumstances under which the mainland has historically warned it would use force have evolved over time in response to the island's declarations of political status, changes in PLA capabilities, and Beijing's view of Taiwan's relations with other countries. These circumstances, or "red lines," have included:

- Formal declaration of Taiwan independence;
- Undefined moves toward Taiwan independence;
- Internal unrest on Taiwan;
- Taiwan's acquisition of nuclear weapons;
- Indefinite delays in the resumption of cross-Strait dialogue on unification;
- Foreign intervention in Taiwan's internal affairs; and,
- Foreign troops stationed on Taiwan.

Article 8 of the March 2005 "Anti-Secession Law" states that Beijing may use "non-peaceful means" if "secessionist forces … cause the fact of Taiwan's secession from China;" if "major incidents entailing Taiwan's secession" occur; or, if "possibilities for peaceful reunification" are exhausted. The ambiguity of these "redlines" preserves Beijing's flexibility.



Taiwan Strait SRBM & SAM Coverage. *This map depicts notional coverage based on the range of the CSS-6 and CSS-7 SRBMs and the Russian-designed SA-20 PMU2 SAM system. Actual air defense coverage would be non-contiguous and dependent upon precise deployment sites. If deployed near the Taiwan Strait, the PMU2's extended range provides the PLA's SAM force with an offensive capability against Taiwan aircraft.*

BEIJING'S COURSES OF ACTION AGAINST TAIWAN

The PLA is capable of increasingly sophisticated military action against Taiwan. Some analysts hold that Beijing would first pursue a measured approach characterized by signaling its readiness to use force, followed by a deliberate buildup of force to optimize the speed of engagement over strategic deception. Others contend that it is more likely that Beijing would sacrifice preparations in favor of surprise to force rapid military and/or political resolution before other countries could respond. If a quick resolution is not possible, Beijing would seek to:

- Deter potential U.S. intervention;
- Failing that, delay U.S. intervention and seek victory in an asymmetric, limited, quick war; or,
- Fight to a standstill and pursue a political settlement after a protracted conflict.

Maritime Quarantine or Blockade. Although a traditional maritime quarantine or blockade would have greater impact on Taiwan, at least in the near term, such an operation would tax PLA Navy capabilities. PRC military writings describe potential alternative solutions—air blockades, missile attacks, and mining—to obstruct harbors and approaches. Beijing could declare that ships en route to Taiwan must stop in mainland ports for inspection prior to transiting to Taiwan ports. Beijing could also attempt the equivalent of a blockade by declaring exercise or missile closure areas in approaches to ports, in effect closing port access and diverting merchant traffic. The PLA employed this method during the 1995-96 missile firings and live-fire exercises. There is risk, however, that Beijing would underestimate the degree to which any attempt to limit maritime traffic to and from Taiwan would trigger countervailing international pressure and military escalation. China today probably could not enforce a full military blockade, interdicting and if necessary destroying nearly all traffic into Taiwan, particularly in the face of intervention by a major naval power; but its ability to do so will improve significantly over the next five to ten years.

Limited Force or Coercive Options. Beijing might use a variety of disruptive, punitive, or lethal military actions in a limited campaign against Taiwan, likely in conjunction with overt and clandestine economic and political activities. Such a campaign could include computer network or limited kinetic attacks against Taiwan's political, military, and economic infrastructure to induce fear in Taiwan and degrade the populace's confidence in the Taiwan leadership. Similarly, PLA special operations forces could infiltrate Taiwan and conduct attacks against infrastructure or leadership targets.

Air and Missile Campaign. Limited SRBM attacks and precision strikes against air defense systems, including air bases, radar sites, missiles, space assets, and communications facilities, could be conducted in an attempt to degrade Taiwan's defenses, neutralize Taiwan's leadership, or break the Taiwan people's will to fight.

Amphibious Invasion. Publicly available PRC writings describe different operational concepts for amphibious invasion. The most prominent of these, the Joint Island Landing Campaign, envisions a complex operation relying on coordinated, interlocking campaigns for logistics, air and naval support, and electronic warfare. The objective would be to break through or circumvent shore defenses, establish and build a beachhead, transport personnel and materiel to designated landing sites in the north or south of Taiwan's western coastline, and launch attacks to seize and occupy key targets and/or the entire island.

The PLA is capable of accomplishing various amphibious operations short of a full-scale invasion of Taiwan. With few overt military preparations beyond routine training, China could launch an invasion of small Taiwan-held islands such as the Pratas or Itu Aba. A PLA

invasion of a medium-sized, defended offshore island such as Mazu or Jinmen is within China's capabilities. Such an invasion would demonstrate military capability and political resolve while achieving tangible territorial gain and simultaneously showing some measure of restraint. However, this kind of operation includes significant, if not prohibitive, political risk because it could galvanize the Taiwan populace and generate international opposition.

Large-scale amphibious invasion is one of the most complicated and difficult military maneuvers. Success depends upon air and sea superiority, rapid buildup and sustainment of supplies on shore, and uninterrupted support. An attempt to invade Taiwan would strain China's untested armed forces and invite international intervention. These stresses, combined with China's combat force attrition and the complexity of urban warfare and counterinsurgency (assuming a successful landing and breakout), make amphibious invasion of Taiwan a significant political and military risk. Taiwan's investments to harden infrastructure and strengthen defensive capabilities could also decrease Beijing's ability to achieve its objectives.

Chapter Six: U.S.-China Military-to-Military Contacts

OVERVIEW

In his July 27, 2009 speech before the opening session of the first U.S.-China Strategic and Economic Dialogue, President Obama observed that the "relationship between the United States and China will shape the 21st century, which makes it as important as any bilateral relationship in the world." The United States and China are committed to the pursuit of a bilateral relationship that is positive, cooperative, and comprehensive—an aspiration that was re-affirmed in the U.S.-China Joint Statement of November 17, 2009.

Sustainable and reliable U.S.-China military-to-military ties are an important component of the overall bilateral U.S.-China relationship and are necessary for the relationship to be comprehensive.

U.S.-China military-to-military contacts are not ends in and of themselves. The complexity of the security environment, both in the Asia-Pacific region and globally, calls for a continuous dialogue between the armed forces of the United States and China, at all levels, to expand practical cooperation in areas in which the two countries' national interests converge and to discuss candidly those areas in which there is disagreement. Moreover, given the advances in China's military capabilities and its more broadly ranging military operations and mission sets, as documented in the preceding pages of this report, a continuous military-to-military dialogue between the United States and China becomes especially important during periods of friction and turbulence.

China's senior political and military leaders, including President Hu Jintao, have stated their commitment to work to further develop and improve bilateral military-to-military contacts and exchanges. Yet, a sustained exchange program has been difficult to achieve. The result is an on-again/off-again military relationship that limits the ability of the two armed forces to explore areas of cooperation, enhance mutual understanding, improve communications, and reduce the risk that misapprehension or miscalculation could lead to crisis or conflict.

The United States bases its contacts and exchanges with China's military on the principles of mutual respect, mutual trust, reciprocity, mutual interest, continuous dialogue, and mutual risk reduction. The Department of Defense conducts them in a manner consistent with the provisions of Section 1201 of the National Defense Authorization Act for Fiscal Year 2000 [Public Law 106-65 (1999)], which provides the Secretary of Defense sufficiently broad latitude to develop a program of exchange with China that supports national interests.

OPPORTUNITIES AND CHALLENGES IN U.S.-CHINA MILITARY-TO-MILITARY RELATIONS

In speaking of U.S.-China relations, President Obama has said that "our ability to partner is a prerequisite for progress on many of the most pressing global challenges." Accordingly, the Department of Defense, in concert with other departments and agencies of the U.S. Government, is investing in multiple channels for dialogue and consultation with the People's Republic of China, such as the State and Treasury-led Strategic and Economic Dialogue, an enhanced program of military-to-military contacts and exchanges, and an invigorated Military Maritime Consultative Agreement process to manage maritime safety issues between our two armed forces.

Through these and other important mechanisms, over the course of 2009, the United States worked with China to address the challenges created by North Korea, Iran, Afghanistan, and Pakistan, and a host of regional and transnational security issues.

Topics Discussed and Questions Asked

During military-to-military contacts and exchanges with the PRC in 2009, the Chinese discussed and expressed interest in U.S.-China defense relations, the rationale for U.S. military deployments around China, the U.S. relationship with Taiwan, maritime safety, military transformation and modernization, and regional issues such as North Korea, Iran, Afghanistan, and Pakistan.

This cooperation was possible, in part, due to the stability that returned to the U.S.-China military-to-military relationship in 2009, following China's decision to suspend a number of planned exchanges in response to the October 2008 U.S. announcement of arms sales to Taiwan. China decided to again suspend military exchanges following the January 2010 announcement of additional U.S. arms sales to Taiwan. This announcement was consistent with long standing U.S. policy to assist Taiwan to maintain a sufficient self-defense capability. Beijing's response indicates that it continues to view a withdrawal from military dialogue as a punitive measure. While China has repeatedly stated its desire for improved U.S.-China military-to-military relations, it has repeatedly sublimated this goal to others it perceives as more important.

The United States seeks to work with China to find meaningful ways to define the terms of the military-to-military relationship, not by the differences between the two sides, but rather by the interests they share. The U.S.-China military-to-military relationship also requires a more balanced and reciprocal footing to ensure stability and consistency across the exchange program. Stability in U.S.-China military-to-military exchanges is necessary to build mutual trust and establish rules of the road that can reduce the risk of accidents or incidents. Given the breadth and complexity of the U.S.-China relationship, occasional political turbulence is inevitable. Only when China determines that it is in its own interest to sustain engagement through periods of turbulence will it be possible to build a more solid foundation for military-to-military relations.

The Department of Defense prioritizes exchanges that focus on building cooperative capacity, fostering institutional understanding, and developing common views on the international security environment and related security challenges. To build cooperative capacity, for example, the U.S. Armed Forces are looking to build upon the positive experiences of navy-to-navy cooperation with China in concert with the international community to combat piracy in the Gulf of Aden.

There are other areas where the U.S. and PRC militaries can find common ground to work together, whether it is countering piracy in other parts of the world, supporting international peace operations, pursuing a shared commitment to non-proliferation, combating infectious disease, or delivering humanitarian assistance and disaster relief to those in need. During Secretary Gates's October 27, 2009 meeting with China's Central Military Commission Vice Chairman General Xu Caihou, the two sides agreed to concrete and practical measures for working together on some of these issues in 2010, including a joint maritime search and rescue exercise, a disaster management exchange, and military medical subject matter expert exchanges.

There are opportunities for the United States and China to expand reciprocal exchanges,

including those between mid-grade and junior officers and among institutions of professional military education. Additional opportunities to improve institutional understanding exist in the area of policy and strategy for nuclear, space, and cyber-security issues. Following a first round of talks on nuclear policy and strategy in April 2008, China deferred further discussion. Secretary Gates raised the importance of building momentum behind this dialogue with General Xu in October 2009. The Commander, U.S. Strategic Command, General Chilton, did likewise during General Xu's brief visit to U.S. Strategic Command.

Continuous dialogue, particularly at high levels, is an important platform for developing common views on the international security environment and related security challenges, such as North Korea, Iran, Afghanistan, and Pakistan. Continuous dialogue also permits a respectful discussion of other bilateral issues including those for which the two sides have differences. For example, the United States and China continue to have differences over the rights of coastal states in their exclusive economic zones, and the appropriate response to such differences. The Department of Defense has not observed a resurgence of the sort of harassment by PRC fishing vessels of U.S. naval auxiliary ships conducting routine and lawful military operations beyond the PRC's territorial seas that occurred in spring 2009, but it could become an issue again.

The United States remains vigilant in its watch for behavior that puts at risk the safety of U.S. soldiers, sailors, airmen, and marines or is in clear violation of international norms. The Department will continue to use all available channels, in particular an invigorated MMCA and Defense Policy Coordination Talks process, to communicate the U.S. Government position on these and other matters to the PLA, while taking advantage of opportunities for the two sides to discuss practical ways to reduce the chances for misunderstanding and miscalculation between our armed forces.

Benefits China Expects to Gain

Perception Management: China's civilian and military leaders use defense contacts with the United States and other countries as avenues to communicate political messages and shape perceptions of China among foreign leaders.

Insights on the United States: The PLA seeks to use contact with the United States to gain a better understanding of U.S. leadership, policies, capabilities, and intent, and to gain insights into potential U.S. vulnerabilities. Additionally, China hopes to learn more about U.S. military relations with other countries of interest to Beijing.

Enhancement of Military Capabilities: The PLA seeks to benefit from functional and professional exchanges with the United States in areas such as doctrine development, force structure, personnel management, professional military education, training, technology, and technical information that would support PLA defense modernization. These contribute, indirectly, to military capabilities by improving areas such as officer professionalism, exposure to foreign militaries and concepts, personnel systems, and financial management.

International Prestige: Senior political leaders in Beijing also pursue contacts with the Department of Defense to elevate China's status as a regional and world power. In this context, China's leaders seek to use "normal" defense relations with the United States to enhance China's international status and to drive a wedge between the United States, its allies, and its partners, including Taiwan.

Domestic Politics: Defense relations with the United States may provide the PLA with leverage in internal political debates regarding overall Chinese policies toward the United States and other regional actors.

As President Obama has said, "[the U.S.-China] relationship has not been without disagreement and difficulty. But the notion that we must be adversaries is not pre-destined." The Department of Defense, along with other elements of the U.S. Government, will continue to engage China to develop further those areas where cooperation is possible. The United States will also continue to encourage China to improve transparency and openness in its military affairs, including defense expenditure, strategies, plans, and intentions, and to recognize the importance of integrating more firmly with a globalizing world, and to act in ways that support and strengthen international political, economic, and security systems.

The Department of Defense's strategy for U.S.-China military-to-military contacts fits within the broader National Defense Strategy which acknowledges that U.S. defense interaction with China will be long-term and multi-dimensional and will involve peacetime engagement as much as fielded combat capabilities.

The Department of Defense will continue to use military engagement with the PRC to demonstrate U.S. commitment to the Asia-Pacific region and to encourage China to play a constructive role in the region, and act as a partner in addressing common security challenges. At the same time, the Department of Defense has a special responsibility to monitor China's military modernization and to maintain deterrence of conflict. Through force posture, presence, actions to strengthen alliances and partnerships, and capability developments, the Department of Defense demonstrates the U.S. will and ability to maintain peace and stability in the Asia-Pacific.

Highlights of High-Level Exchanges and Dialogues

U.S. Chief of Naval Operations, Admiral Gary Roughead, visit to China: From April 17-21, 2009, Admiral Roughead visited China to conduct a working visit with Admiral Wu Shengli, the PRC Navy Commander, and attend the beginning of the PLA Navy's International Fleet Review, held in Qingdao from April 20-25. In addition to Admiral Wu, Admiral Roughead met with Vice Minister of Foreign Affairs He Yafei, Minister of Defense General Liang Guanglie, and North Sea Fleet Commander Admiral Tian Zhong. The purpose of the visit was to foster U.S.-China navy-to-navy and overall military relationships, and to explore areas for enhanced cooperation. PRC officials reiterated their concern about Taiwan arms sales, but also emphasized the cooperative trend in the U.S.-PRC bilateral relationship. Admiral Roughead's discussions with Admiral Wu focused on operational safety in the context of U.S. Navy-PLA Navy interactions, port visits and reciprocity, and future areas of cooperation including counter-piracy and potential humanitarian search and rescue exercises.

Defense Consultative Talks: Under Secretary of Defense for Policy, Michèle Flournoy, traveled to Beijing to conduct the tenth DCT with the PLA from June 23-24, 2009. The DCT is the highest level bilateral dialogue between the U.S. and PRC defense establishments, and provides a framework for the military-to-military relationship. During the two days of talks with the Deputy Chief of the PLA General Staff, General Ma Xiaotian, the two sides discussed how to shift the military relationship to a more sound footing, the importance of maritime safety and of maintaining communication when incidents arise, and regional security issues including North Korea, Afghanistan, Pakistan and Iran. The United States also provided the PLA with an update on the status of the Nuclear Posture Review and the Quadrennial Defense Review, and discussed the importance of openness and transparency in defense matters.

U.S. Chief of Staff of the Army, General George Casey, visit to China: From August 19-23, 2009, General George Casey was hosted by Deputy Chief of the General Staff, General Ge Zhenfeng, for a visit to China. General Casey met with defense and foreign affairs officials in Beijing as well as experts at the Academy of Military Sciences. General Casey also met with defense officials in Shenyang and observed PLA company-level training. General Casey's objectives were to solicit the views of China's leaders on the regional security situation and to support further development of military-to-military exchanges and contacts. General Casey and his counterpart agreed to initiate a program of exchanges along four lines of effort: cultural exchanges, mid-level officer exchanges, functional exchanges, and humanitarian assistance/disaster relief exercises.

Military Maritime Consultative Agreement: The MMCA is a bilateral forum begun in 1989 to discuss matters concerning operational and tactical safety at sea. In August 2009 the two sides held a special session of the MMCA to discuss how to invigorate the MMCA mechanism to improve the safety of U.S and PRC air and maritime forces when they operate near each other. In December, officials held discussions about the MMCA process and discussed PRC proposals to make revisions to the MMCA Charter.

Central Military Commission Vice Chairman, General Xu Caihou visit to the U.S.: Secretary Gates hosted the visit of General Xu to the United States from October 24-31, 2009. During their meeting the Secretary reaffirmed the value of maintaining a continuous dialogue based on open and substantive discussion of strategic issues, and achieved consensus with General Xu on the types of military-to-military contacts and exchanges to pursue in 2010: high-level visits to build and maintain a continuous dialogue; cooperation in the area of humanitarian assistance and disaster relief; military medical cooperation; expand Service-level exchanges between the two Armies; enhanced mid-grade and junior officer exchanges; culture and sports exchanges; and use existing diplomatic and consultative mechanisms to improve military maritime operational and tactical safety. During his trip, General Xu also visited the State Department, U.S. Naval Academy, U.S. Strategic Command, Nellis Air Force Base, Naval Air Station North Island, and had a follow-on visit from November 1-3, to the U.S. Pacific Command.

Defense Policy Coordination Talks: On December 16 and 17, 2009, the Deputy Assistant Secretary of Defense for East Asia, and his counterpart, the Director of the MND FAO, convened the fifth annual DPCT. The talks included representatives from the U.S. Pacific Command, the Joint Staff, and the State Department. The discussions reviewed developments in U.S.-China military-to-military relations during 2009, and ways to build toward a continuous dialogue in 2010. The discussions also provided both delegations an opportunity to further build and deepen bilateral strategic trust, exchange views on a number of regional and global issues, and seek ways to cooperate on areas of mutual interest. Topics covered included North Korea, Iran, Africa, Burma, Afghanistan, and Pakistan. The U.S. and PLA delegations exchanged views on nonproliferation, and provided briefings on the U.S. Quadrennial Defense Review and China's National Defense Construction, respectively.

Appendix I:
China and Taiwan Forces Data

Taiwan Strait Military Balance, Ground Forces			
	China		**Taiwan**
	Total	***Taiwan Strait Area***	***Total***
Personnel (Active)	1.25 million	400,000	130,000
Group Armies	18	8	3
Infantry Divisions	19	6	0
Infantry Brigades	25	11	8
Mechanized Infantry Divisions	4	1	0
Mechanized Infantry Brigades	5	1	3
Armor Divisions	9	4	0
Armor Brigades	8	3	4
Artillery Divisions	2	2	0
Artillery Brigades	17	6	5
Airborne Divisions	3	3	0
Amphibious Divisions	2	2	0
Amphibious Brigades	3	3	3
Tanks	7,000	3,100	1,100
Artillery Pieces	8,000	3,400	1,600

Note: 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 MRs. A significant portion of these assets are deployed in the Taiwan Strait area, specifically the Nanjing, Guangzhou, and Jinan MRs. Taiwan has seven Defense Commands, three of which have Field Armies. Each Army contains an Artillery Command roughly equivalent to a brigade plus.



CHINA: Group Armies (GA) Primary Missions

Shenyang MR
16 GA – Defensive, Offensive CT
39 GA – RRU, Offensive MF
40 GA – Defensive, Offensive CT

Beijing MR
65 GA – Defensive
38 GA – RRU, Offensive MF
27 GA – Defensive

Jinan MR
26 GA – Offensive CT, Defensive
20 GA – Offensive CT, Defensive
54 GA – Offensive MF, Amphibious

Nanjing MR
1 GA – Amphibious, Offensive CT
12 GA – Amphibious, Offensive CT
31 GA – Amphibious, Offensive CT

Guangzhou MR
15 Airborne – RRU, Offensive MF
41 GA – Offensive CT, Amphibious
42 GA – Amphibious

Chengdu MR
13 GA – Defensive, Offensive CT
14 GA – Defensive, Offensive CT

Lanzhou MR
47 GA – Defensive, Offensive CT
21 GA – Offensive MF, Defensive

MR – Military Region
MF – Mobile Force
RRU – Rapid Reaction Unit
CT – Complex Terrain (mountain, urban, jungle, etc.)

Major Ground Units

Taiwan Strait Military Balance, Air Forces			
China			**Taiwan**
Aircraft	***Total***	***Within range of Taiwan***	***Total***
Fighters	1,680	330	388
Bombers/Attack	620	160	22
Transport	450	40	21

Note: The PLAAF and the PLA Navy have approximately 2,300 operational combat aircraft. These consist of air defense and multi-role fighters, ground attack aircraft, fighter-bombers, and bombers. An additional 1,450 older fighters, bombers and trainers are employed for training and R&D. The two air arms also possess approximately 450 transports and over 100 surveillance and reconnaissance aircraft with intelligence, surface search, and airborne early warning capabilities. The majority of PLAAF and PLA Navy aircraft are based in the eastern half of the country. Currently, 490 aircraft could conduct combat operations against Taiwan without refueling. However, this number could be significantly increased through any combination of aircraft forward deployment, decreased ordnance loads, or altered mission profiles.



Major Air Units

Taiwan Strait Military Balance, Naval Forces			
	China		Taiwan
	Total	***East and South Sea Fleets***	***Total***
Destroyers	25	15	4
Frigates	49	40	22
Tank Landing Ships/ Amphibious Transport Dock	27	25	12
Medium Landing Ships	28	23	4
Diesel Attack Submarines	54	32	4
Nuclear Attack Submarines	6	2	0
Coastal Patrol (Missile)	85	65	61
Note: The PLA Navy has the largest force of principal combatants, submarines, and amphibious warfare ships in Asia. After years of neglect, the force of missile-armed patrol craft is also growing. In the event of a major Taiwan conflict, the East and South Sea 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 coast, but could provide mission-critical assets to support other fleets.			



Major Naval Units

China's Missile Force			
China's Missile Inventory	**Ballistic and Cruise**		***Estimated Range***
	Missiles	***Launchers***	
CSS-2	15-20	5-10	3,000+ km
CSS-3	15-20	10-15	5,400+ km
CSS-4	20	20	13,000+ km
DF-31	<10	<10	7,200+ km
DF-31A	10-15	10-15	11,200+ km
CSS-5	85-95	75-85	1,750+ km
CSS-6	350-400	90-110	600 km
CSS-7	700-750	120-140	300 km
DH-10	200-500	45-55	1,500+ km
JL-2	Developmental	Developmental	7,200+ km
Note: China's Second Artillery maintains at least five operational SRBM brigades; an additional two brigades are subordinate to PLA ground forces—one garrisoned in the Nanjing MR and the other in the Guangzhou MR. All SRBM units are deployed to locations near Taiwan.			

Appendix II:
Military-to-Military Exchanges

MILITARY-TO-MILITARY CONTACTS FOR THE YEAR 2009

The Department of Defense engaged in the following military-to-military contacts and exchanges with the PLA in 2009. The Office of the Secretary of Defense reviewed and approved each contact. A case-by-case review process allows the Department of Defense to evaluate each exchange or contact in terms of benefit to the United States, adherence to the principles of reciprocity and transparency, and compliance with the statutory limitations contained in Section 1201 of Public Law 106-65.

Department of Defense Exchange or Contact	Date
Working-level Defense Prisoner of War/Missing Personnel Office Policy Talks and Joint POW/MIA Accounting Command Compensation Negotiations	Jan
Interactions between U.S. and PRC Counter-piracy Task Forces in the Gulf of Aden	Continuing
U.S. Military Academy Superintendent visit to China	Feb
Observers to COBRA GOLD in Thailand	Feb
Defense Policy Coordination Talks in China	Feb
AMAN 09 Multilateral Exercise in Pakistan	Mar
Pacific Special Operations Conference in the United States	Apr
Defense Prisoner of War/Missing Personnel Office Policy/Technical Talks in China	Apr
Chief of Naval Operations visit to China	Apr
Asia Pacific Center for Security Studies (APCSS) Comprehensive Crisis Management Course in the United States	May
National War College delegation visit to China	May
Industrial College of the Armed Forces Industry Studies delegation visit to China	May
Pacific Area Senior Officer Logistics Seminar in Philippines and China	May and Aug
Defense Consultative Talks in China	Jun
U.S. Pacific Command Non-Commissioned Officer exchange visit to China	Jun
PLA Archives Personnel visit to the United States, including the Marine Corps University Archives	Jul
PLA observed KHAAN QUEST Peacekeeping Operations Exercise in Mongolia	Jul
China Visiting Scholar to APCSS in the United States	Jul and Sep
APCSS Advanced Security Cooperation Course in the United States	Jul and Sep
Chief of Staff of the Army visit to China	Aug
PLA General Staff Department-Second Department visit to the United States	Aug

Department of Defense Exchange or Contact	Date
APCSS Transnational Security Cooperation Course in the United States	Aug
Pacific Area Army Chiefs Conference in Japan	Aug
Pacific Area Armies Management Seminar in Japan	Aug
Joint POW/MIA Accounting Command investigative missions to Sichuan & Guangxi Provinces	Aug
Special Meeting under the Military Maritime Consultative Agreement in China	Aug
U.S. National Defense University (NDU) Annual Strategic Discussions with the PLA NDU in the United States	Sep
U.S. NDU senior-level academic exchange in China	Sep
General Xu Caihou, Central Military Commission Vice Chairman, visit to the United States	Oct
U.S. NDU CAPSTONE trip to Beijing	Oct
APCSS Comprehensive Crisis Management Course in the United States	Oct
U.S. NDU mid-level academic exchange in China	Oct
PRC Ministry of Foreign Affairs International Peacekeeping Symposium in China	Nov
U.S. Pacific Command Non-Commissioned Officer Exchange in the United States	Nov
APCSS Conference on Collaborative Lessons Learned on U.S.-China Earthquake and Flood Response Workshop in the United States	Nov
APCSS Comprehensive Security Response to Terrorism Course in the United States	Nov
Defense Policy Coordination Talks in the United States	Dec
Military Maritime Consultative Agreement Discussions in the United States	Dec
PLA Engineer Visit to the U.S. Army Corps of Engineers in the United States	Dec

MILITARY-TO-MILITARY CONTACTS FOR THE YEAR 2010

The Office of the Secretary of Defense approved in principle the following U.S.-China military-to-military contacts for 2010. The Office of the Secretary of Defense will continue to review each contact on a case-by-case basis consistent with Secretary of Defense guidance.

Department of Defense Exchange or Contact	Date
Asia Pacific Center for Security Studies (APCSS) Transnational Security Cooperation Course	1st QTR
APCSS-Stanford University Pacific Rim Security Managing the Global Commons	1st QTR
U.S. Military Academy Superintendent visit to China	1st QTR
PLA visit to USA Judge Advocate General School	1st QTR
APCSS Comprehensive Security Responses to Terrorism Course	1st QTR
U.S. Marine Corps (USMC) School of Advanced Warfare visit to China for study of World War II warfare	1st QTR
PLA Mid-Grade officers visit to the United States	1st QTR
General Chen Bingde, chief of the PLA General Staff visit to the United States	1st QTR
U.S. Military Academy Foreign Academy Exchange Program	1st/2nd QTR
Commander, U.S. Pacific Fleet, visit to China	1st/2nd QTR
Defense Prisoner of War/Missing Personnel Office Policy/Technical Talks in China	2nd QTR
Joint POW/MIA Accounting Command investigative mission to China (Korean War)	2nd QTR
U.S. Mid-Grade officers visit to China	2nd QTR
USMC Battle Color Detachment visit to China	2nd QTR
Military Maritime Consultative Agreement discussions in the United States	2nd QTR
U.S. Navy port visit to China	2nd QTR
U.S. PACOM visit to China	2nd QTR
Defense Language Institute Language Site Survey/Exchange	2nd QTR
APCSS Advanced Security Cooperation Course	2nd QTR
Western Pacific Naval Symposium in Singapore	2nd QTR
U.S. Army Band Exchange in China	2nd QTR
Secretary of Defense visit to China	2nd QTR

Department of Defense Exchange or Contact	Date
Judge Advocate General Harvard exchange on rule of law in the military	2nd QTR
PLA attend Department of Defense Environment, Energy and Sustainability Symposium in the United States	2nd QTR
Office of the Secretary of Defense/Public Affairs Exchange in China	2nd QTR
PLA Navy military medical exchange in the United States	2nd/3rd QTR
PLA Navy Commander visit to USMC East Coast facilities	2nd/3rd QTR
Office of the Secretary of Defense/Acquisition Technology and Logistics Military Environmental Exchange in China	2nd/3rd QTR
Joint POW/MIA Accounting Command investigative and recovery missions (Korean War and WWII)	3rd QTR
USMC Martial Arts program visit to China	3rd QTR
APCSS Comprehensive Security Responses to Terrorism Course	3rd QTR
Air Force Asia Pacific Military Nursing Exchange in Vietnam	3rd QTR
Pacific Air Forces Pacific Airlift Rally in Malaysia	3rd QTR
Pacific Army Management Seminar XXIV in Chile	3rd QTR
Global Air Chief's Conference in the United States	3rd QTR
APCSS Transnational Security Cooperation Course	3rd QTR
U.S. Army Engineer Exchange in China	3rd QTR
Cadet Command Reserve Officer Training Corps Language Exchange	3rd QTR
PLA Air Force Commander visit to the United States	3rd QTR
USMC HA/DR Seminar in the United States	3rd QTR
U.S. Army HA/DR subject matter exchange in China	3rd-4th QTR
PLA Navy Commander visit to the United States	3rd/4th QTR
USMC Command and Staff College orientation visit to China	3rd/4th QTR
PLA Navy Staff visit to the United States	3rd/4th QTR
PLA General Logistics Department visit to the United States	3rd/4th QTR
U.S. Pacific Command Chiefs of Defense Conference	4th QTR
PLA Mid-Grade officers visit to the United States	4th QTR
Chief of Staff of the Army counterpart visit	4th QTR

Department of Defense Exchange or Contact	Date
APCSS Advanced Security Cooperation Course	4th QTR
Chief of Staff of the U.S. Air Force visit to China	4th QTR
Marine Corps University staff visit	4th QTR
Commander, Pacific Air Forces, visit to China	TBD
Air Force avian influenza/pandemics rapid response training in China	TBD
Air Force Pacific Rim Senior Enlisted Leader Conference	TBD
U.S. Air Force Academy Site Survey/Exchange	TBD
Air War College Exchange	TBD
Army Marksmanship Unit Sports Exchange	TBD
Commanding General, U.S. Army Pacific visit to China	TBD
Chairman, Joint Chiefs of Staff visit to China	TBD
Secretary of the Navy visit to China	TBD
PLA Navy HA/DR visit during PACIFIC PARTNERSHIP 2010 on USNS MERCY	TBD
U.S. Annual Report to Congress on Military and Security Developments Involving China/PRC Defense White Paper drafters exchange	TBD
PLA Military Region Commander visit to U.S. Pacific Command	TBD

Countries Visited by Senior Chinese Military Leaders, 2005-2009

2005	2006	2007	2008	2009
Argentina	Australia	Argentina	Bahrain	Australia
Bangladesh	Belarus	Chile	Belarus	Bulgaria
Cuba	Burma	Cuba	Brazil	Burma
Denmark	Cambodia	Greece	Brunei	Finland
Egypt	Denmark	Japan	Chile	Germany
Germany	France	Kuwait	Germany	Japan
India	Hungary	Kyrgyzstan	Hungary	New Zealand
Kazakhstan	India	Mongolia	India	North Korea
Netherlands	Laos	Philippines	Indonesia	Pakistan
Philippines	Malaysia	Russia	Italy	Papua New Guinea
Russia	New Zealand	South Korea	Japan	Russia
Sudan	North Korea	Thailand	Nepal	Serbia-Montenegro
Tajikistan	Norway	United States	Norway	Singapore
Tanzania	Pakistan	Uzbekistan	Oman	Slovakia
Turkey	Romania	Vietnam	Qatar	South Korea
Uruguay	Russia		Saudi Arabia	Thailand
	Singapore		Serbia-Montenegro	Turkey
	South Korea		Singapore	United States
	Tajikistan		South Korea	Vietnam
	Thailand		Tajikistan	
	United States		Thailand	
	Vietnam		United Arab Emirates	
			Venezuela	

This list includes visits led by the vice chairmen of the Central Military Commission, the Minister of National Defense, the Chief of the General Staff, the Deputy Chief of the General Staff, and the commanders of the PLAAF and the PLA Navy.

Senior Foreign Military Officials Visiting China in 2009

Australia	Kenya	Senegal
Bahrain	Liberia	Serbia-Montenegro
Belarus	Macedonia	South Korea
Bolivia	Malaysia	Sri Lanka
Brazil	Maldives	Sudan
Brunei	Malta	Tanzania
Burma	Mongolia	Thailand
Czech Republic	Mozambique	Ukraine
Egypt	Namibia	United Arab Emirates
Finland	Nepal	Uruguay
Germany	North Korea	Uzbekistan
Greece	Pakistan	Vietnam
India	Russia	
Japan		

This list includes visits by senior defense officials and chiefs of the armed services. This list excludes visits associated with the 60th anniversary of the founding of the PRC and multilateral military exercises.