



Evaluating Chinese Military Procurement from Russia

Russian IL-76.

U.S. Air Force (Don Henshaw)

By DENNIS J. BLASKO



Chinese Air Force

Su-27 fighter on cover of Chinese Air Force magazine.

The Chinese military is in the process of a long-term modernization program. Uniformed and civilian leaders have studied recent conflicts, analyzed shortfalls, and identified improvements to be made in doctrine, force structure, and equipment. They are aware of the gap in capabilities between the People's Liberation Army (PLA) and other militaries, notably the U.S. Armed Forces.

Most foreign analysis of the current and potential Chinese military threat emphasizes recent equipment purchases from Russia and what they portend. This article evaluates these acquisitions and compares them to a previous regional threat and arrives at conclusions about the modernization of the Chinese military which differ from those usually found in the media.

Some characterize the Chinese as buyers at a fire sale in their purchase of Russian military equipment.¹ Russian arms merchants have introduced PLA leaders to hardware that could greatly improve Chinese capabilities. Elements of the defense industries in both countries have established relationships with their counterparts. Over the last five years reports on negotiations for advanced technologies have been common if vague and sometimes exaggerated. Many reported deals are never consummated.² Purchases and technology transfers have been limited because of Chinese financial constraints and Russian strategic suspicions.

Notwithstanding a need for hard currency, Moscow has not sold Beijing complete weapons systems that could strike the Russian heartland. Kremlin planners keep a watchful eye on Chinese military modernization and tell civilian leaders to be cautious about arms sales to China. However, some transfer of strategic technology has

Colonel Dennis J. Blasko, USA (Ret.), served as Army attaché in Beijing and Hong Kong, and in assignments at Headquarters, Department of the Army, and with the Defense Intelligence Agency.

Figure 1. Russian Hardware Transferred to China

Mi-17 helicopters	over 40
Su-27 fighters	about 50 (includes AA-10 and AA-11 missiles) [†]
SA-10 surface-to-air missiles	at least 220 missiles in six launch battalions (each with 4 launchers)
IL-76 transport aircraft	14
KILO submarines	3 (with 1 more to be delivered; additional transfers possible)
RD-33 aircraft engine	100 (for Super-7 and F8-3 fighters)

[†] Another 25 or so Su-27s will probably be transferred as part of an agreement to assemble-from-kits or coproduce 200 more aircraft.

likely occurred whether it was sanctioned by the Russian leadership or not. Moreover, the danger persists for rogue traders not only from Russia but from other former Soviet states to traffic in strategic systems and technology in pursuit of personal gain. Similarly, Russian scientists and technicians who are no longer gainfully employed may see China as a lucrative market for their expertise.

Even though Beijing has accumulated vast foreign exchange reserves, the senior leadership has yet to divert sufficient resources from economic development to large-scale military purchases. For example, expenditures on

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culture, health, education, and civilian science and technology have outpaced official figures for defense spending over the past decade.³ It would take huge sums to buy the modern systems necessary to transform the Chinese military, which is primarily equipped with matériel based on the technology of the 1950s and 1960s, to a force based on that of the 1980s.

To gradually improve PLA technological standards, Beijing has authorized the purchase of modest amounts of conventional Russian equipment. Foreign observers generally agree that these buys have been made with funds provided by the central government or through barter agreements, and are not included in the official announced military budget.⁴

Recent Acquisitions

The amount and type of Russian hardware known to have been transferred to China since the early 1990s are exhibited in figure 1.⁵ *The Washington Times* first reported on the transfer of two *Sovremenny* class destroyers with SSN-22 anti-ship cruise missiles.⁶ A recent report indicated that these ships which are under construction will be delivered within the next two years. The same source reports that 12 Kamov K-28 anti-submarine warfare helicopters are part of this deal.⁷

The total cost of such purchases is unclear. Prior to the deal for *Sovremenny* destroyers, one estimate put the figure for 1991-94 at \$4.5-6 billion.⁸ Another report cited Pentagon sources who said the ships and other systems would cost \$8-10 billion over several years.⁹ If either estimate is prorated for a multiyear period,

the published Chinese defense budget might be augmented by \$1-2 billion annually. By comparison the United States bought more than \$43 billion worth of military hardware in 1995 alone, with Lockheed Martin accounting for over \$10 billion of that total.¹⁰

The actual deliveries and potential *Sovremenny* transfer yield insights into the state of both Chinese military modernization and defense industries. First, the classes of equipment purchased indicate trends in force development. Naval and air force capabilities have priority and these new systems will provide some of the combat power required to fight the sort of conflict which planners envision as most likely: short-duration limited wars using high-tech equipment on China's periphery. To fight such conflicts, China must develop the ability

to project and sustain a joint, combined arms force some distance from its borders. At present, China is best suited to fight a defensive war on its own land mass and coastal waters.

Despite a number of allegations, the transfer of strategic long-range bombers and intercontinental ballistic missiles has not been verified. While seeking to improve its strategic capability in cost-effective ways, Beijing appears to believe its nuclear arsenal is an adequate strategic deterrent.¹¹

Though sales of ground force weapons systems have been reported (particularly main battle tanks), significant cases of ground force hardware transfers have yet to be confirmed or come to fruition except for Mi-17 helicopters.¹² This may be because China faces no significant land threat and calculates that the amount of equipment necessary to outfit its ground forces would be cost-prohibitive as well as unnecessary. Such reasoning frees funds for weapons more likely to be needed in future conflicts.

The quantity of equipment purchased from Russia indicates selective modernization of PLA forces. Equipment has been acquired for only a few units. Selective modernization is evident in the decision to form a limited number of rapid reaction units rather than upgrading the entire force structure. The Chinese military is simply too big and too bogged down with matériel designed decades ago to be fully equipped with modern hardware. Further reductions in personnel and force structure will be vital for PLA modernization.

Finally, in nearly all purchases of Russian equipment, Chinese industry currently produces a similar class of weaponry, albeit at a lower technological level. Selecting Russian systems reflects lack of confidence in Chinese weapons and the ability of domestic industries to produce modern systems necessary to equip PLA forces to effectively project their capabilities.

Yet most foreign analysts still point to overall numbers as the primary indicator of Chinese military capabilities. Such estimates often ignore many complexities of war such as command and control, training, logistics,

and doctrine that must accompany the acquisition of modern equipment. The ensuing analysis focuses on military hardware in the Chinese inventory which can be considered modern and compares it with portions of the forces of the former Soviet Union. This approach may provide a more realistic perspective on Chinese modernization.

Former Soviet Forces

Most would agree that even in its final years Soviet military power was a significant threat. Conventional forces were divided into Western, Southern, and Far Eastern theaters of operations. Only the Far Eastern Theater and strategic forces are considered herein. Moreover this comparison will address only the types of equipment recently transferred from Russia or those manufactured by Chinese defense industries that approach contemporary standards.

The total amount of modern Russian equipment transferred to China in the 1990s is only a minuscule part of the PLA inventory. The vast majority of deployed equipment does not provide capabilities necessary for action outside Chinese borders. Though such weaponry may be effective to defend the mainland, the

only a limited number of personnel have had routine experience operating modern hardware

tremendous PLA strength on paper—huge manpower reserves and vast amounts of older equipment—will have minimal value in the case of force projection missions envisioned for future limited, local war scenarios.

Modern Chinese forces pale by comparison to that part of the former Soviet force dedicated to the Pacific, not to mention strategic nuclear forces (figure 2). Certainly the international security environment that the Soviet Union faced differs from the current situation in Asia. Moreover, the way in which Soviet forces would have been employed differs from Chinese doctrine. But the order of magnitude of difference represents the gap between a recognized threat and a potential threat that may never mature.

Figure 2. Deployed Modern Systems

Weapons System	Soviet (a)	Chinese (b)
ICBM / SLBM	1,387 / 912	some 17 / 12 (c)
tactical SSM	300	unknown (d)
SA-10 SAM	1000 (e)	at least 200
principal surface combatants	52 (f)	7 (g), plus 2 <i>Sovremenny</i> class destroyers to be delivered
ballistic missile submarines	23	1
attack submarines	66	8 (h), plus 1 more KIL0 class to be delivered
fourth generation fighters	about 670 (i)	about 50
IL-76 strategic lift aircraft	about 300	14
army helicopters	875	about 100

Sources: (a) *Military Forces in Transition* (Washington: Government Printing Office, 1991) and *Soviet Military Power* (Washington: Government Printing Office, 1989, 1990); (b) Bates Gill and Taeho Kim, *Arms Acquisitions*, and *The Military Balance* (London: Brassey's for the International Institute for Strategic Studies, 1996); (c) figures do not include warheads; (d) includes deployed M-9 missiles and potential M-11 missiles which may enter the force; (e) it was estimated 15 percent of 6,700 strategic SAMs were SA-10s; (f) includes frigates, destroyers, cruisers, and aircraft carriers; (g) includes 2 *Luhu* destroyers and 5 *Jiangwei* frigates; (h) includes 3 Russian built KIL0 class and 5 indigenously produced HAN nuclear attack submarines; (i) over 75 percent are fourth generation fighters.

Numerical Implications

Perhaps the most significant implication of the relatively small scale introduction of modern military equipment to PLA forces is that only a limited number of officers and enlisted personnel have had routine experience operating and maintaining modern hardware. Often the use of this equipment in training is restricted to demonstration and experimentation. But new systems must eventually be integrated into old operational methods as new tactics, techniques, and procedures are developed. Such changes do not occur overnight.

Until enough soldiers, sailors, and airmen use modern equipment to become familiar with its capabilities and complexities, it is unlikely that such weapons will be employed to their designed potential. Fear of the loss or damage of expensive hardware probably will result in a very conservative approach to using it in training.

The task facing the Chinese is complicated by the reality that, except for internal security operations, almost a generation of PLA officers lacks any combat experience.¹³ In particular,

they have none in planning for or employing modern weapons in combat. Nor have they experienced the effect of such weaponry.

The relatively low level of education and technical sophistication in the force hampers rapid modernization. Though PLA forces are engaged in a major educational campaign about high-tech capabilities, until such equipment is readily available throughout the force most personnel will have only academic exposure to this weaponry and its application on the modern battlefield. Thus it will be difficult to develop and disseminate doctrine, tactics, techniques, and procedures for employing modern weapons that may enter the force. These software challenges may take longer to overcome than the more readily visible hardware shortfalls.

Defense Industries

Even though China is credited with having a defense base that can produce the entire range of weaponry, with a few exceptions its defense industries do not meet late 20th century standards. Except for pockets of excellence there are tremendous production shortfalls. Success includes limited numbers of indigenously designed, produced, and fielded nuclear weapons, ballistic and cruise missiles,

some world class electronics, and a few frigates and destroyers.

However, most military production is focused on upgrading foreign systems based on pre-1970s technology and manufacturing techniques. For example, the J-7 aircraft, a modified Soviet MiG-21 originally designed in the 1950s, is still the most widely produced fighter.¹⁴ In the 1990s this plane is replacing older J-6 fighters, a Chinese version of the MiG-19.¹⁵ In the Soviet Union the MiG-21 was replaced in the 1980s by a generation of aircraft represented by the Su-27.

For more than a decade there has been talk of Chinese efforts to make an F-16 equivalent. When and if it will be produced, and in what quantity, remains open to speculation. For ten



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years they have also attempted to design a main battle tank equal to the Soviet T-72. Cooperative efforts with Pakistan have proven less than satisfactory, and no new tank can be expected any time soon from China's industrial base.

The decision to buy *Sovremenny* destroyers from Russia indicates the problem confronting the Chinese defense industry. The *Luhu* destroyer is one of the few systems even approaching modern standards, yet Beijing has decided to

acquire ships of the same class from Moscow to accomplish the same functions. Similar thinking was reflected in the acquisition of Su-27s after China had attempted for years to develop an aircraft with equivalent technology to perform similar functions. Such decisions demonstrate a lack of confidence on the part of military planners in their own industrial capabilities.

It is unlikely that the Chinese industrial base can surmount these problems without massive resources from the central government and the expense of acquiring considerably more technology and production assistance from foreign sources. Manufacturing equipment and techniques on most lines are inadequate to meet modern standards. Production is too low even at current technological levels to allow for a rapid buildup of modern equipment. It would not be an overstatement to say that even to produce a portion of the range of modern arms, Chinese industry with few exceptions would need a nearly total recapitalization of its production lines.

When production estimates for selected Chinese weapons systems are compared with those for the Soviet defense industrial base in the late 1980s, rates for less sophisticated Chinese equipment are much lower than the Soviet rates (figure 3). These low rates are compounded by the effort to convert defense production and technology to civilian use. For several years official reports stated that 80 percent of the production value of defense industries was civilian goods or services.¹⁶ The majority of the other 20 percent resulted in systems that do not meet modern standards. Nor does the defense industrial base appear to have a workable plan to surge in an emergency.¹⁷

The decline in Chinese arms sales in the 1990s is another indication of the problem. Given the choice, foreign purchasers have selected Western or Russian arms over Chinese in the last several years.¹⁸ Today the low price of China's weaponry cannot overcome its

lack of sophistication. Many recent purchases were made more for political purposes than for military effectiveness. In the end, most foreign buyers have been dissatisfied with Chinese weapons.

Figure 3. Yearly Production Rates (late 1980s)

Weapons System	Soviet	Chinese
principal surface combatants	9	3-4
attack submarines	8	1
fighter aircraft	633 (a)	80 (b)

(a) Soviet figures represent the average production level for 1988-90 as found in *Military Forces Transition*, p. 23. (b) John Frankenstein and Bates Gill, "Current and Future Challenges Facing Chinese Defense Industries," *The China Quarterly*, no. 146 (June 1996), p. 413.

Internal Constraints

Chinese leaders are aware of the shortcomings in their system. Yet they have refrained from making the investments required to significantly alter resource distribution. Beijing analysts justify this decision by pointing to the disproportionate amount Moscow spent on the military as a prime cause of the fall of the Soviet Union.

The Central Intelligence Agency estimates that the Soviet Union dedicated 15 to 17 percent of its gross domestic product (GDP) to defense for much of the 1980s.¹⁹ This is far above most appraisals of present levels of Chinese defense spending even after adjustments for extrabudgetary sources of income.²⁰ Official Beijing statements place it at about 1.5 percent of GDP. Even if that number is tripled to account for extrabudgetary sources, it would amount to only about 5 percent of GDP.²¹ The Soviet figure suggests the magnitude of resources that China would have to divert if it decided to speed up modernization. The result of such a decision would quickly become evident to the world and would not by itself guarantee a modern military.

Modernization thus faces severe constraints. If Beijing tries to surmount its shortcomings too quickly, it could



Dennis J. Blasko

4th Combat Camera Squadron (Jim Shyne)

U.S. Navy (David Merrill)

bankrupt the nation and cause severe reactions from governments throughout the region and the world. However, if PLA forces do not take signifi-

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cant steps, China cannot be confident of protecting its sovereignty against what it considers real threats. Without a credible military, China will not achieve its goal of eventually becoming a global power.

After analyzing the problem in the context of international and domestic environments, the civilian and

military leadership agree that the long-term program for gradual defense modernization is appropriate and will not jeopardize the Chinese economy.

However, unlike most other nations, China appears committed to increasing defense spending. Yet increases in magnitude (three to five times more than adjusted estimates), which would put Beijing on a spending level equivalent to that of Moscow in the mid-1980s, do not appear likely.

At the same time, the military will take advantage of a relatively peaceful regional security atmosphere to continue modernizing doctrine, education, and training levels as the sophistication of its equipment gradually improves. The Chinese military will avoid extended combat, preferring posturing and threats of deadly force. As seen

from exercises held near Taiwan in 1995 and 1996, PLA forces will also stress limited high-tech weapons, ballistic and cruise missiles in particular, to portray themselves in a modern light.

If force is used there will be rapid efforts to maximize surprise. For the foreseeable future, because of its relative weakness, technological and equipment factors indicate that Beijing is more likely to rely on stratagem and bluff than brute force to counter more modern opponents.

In terms of conventional military hardware, PLA forces have about a tenth the capability of Soviet formations deployed in the Far Eastern Theater in the late 1980s. Although there are a few pockets of excellence, China has only begun the long process of equipment modernization. It still must develop doctrine and educate and train its personnel in modern techniques. The integration of high-tech weapons systems on the training field, to include modern communications, intelligence, and logistics systems, is a major endeavor that has been underway for only a brief time and only by a portion of the force.

Without massive foreign assistance, China's industrial base can at best produce equipment which is technologically equivalent to that which Moscow replaced in the 1980s. Most defense industries will have to be retooled and their workers taught new techniques to produce greater amounts of state-of-the-art equipment. Therefore, despite a desire for self-sufficiency, it is probable that most modern hardware introduced into Chinese units in the near and mid term will be foreign in origin.

The cost of modernization and re-vamping industry would be enormous. The international environment does not require China to reallocate resources between the civilian and military sectors at this time. In any case, over the next few years PLA forces are likely to be reduced in size while their budget is modestly increased. Such a trend will advance the modernization of selected units and improve overall

levels of education and training throughout the military.

While the pace of Chinese military modernization will not pose a significant threat to major powers for some time, Beijing's neighbors are wary of its intentions. No matter what the foreign perception, however, for reasons of prestige and pursuit of national objectives, China will seek a visible standing force able to deter war and intimidate potential opponents.

China recognizes its military weaknesses and thus will seek to avoid a prolonged conflict instead of initiating one. Beijing is more likely to benefit from both economic development and international integration by eschewing the use of force than by arbitrary and risky displays of power. Because no imminent threat exists Beijing need not surmount deficiencies in its conventional capabilities in the near or mid term. Rather, PLA forces are likely to focus on enhancing proven pockets of excellence: ballistic and cruise missiles and nuclear weapons. Although improvements in systems can be expected gradually, great advances are unlikely in the short run.

China will also attempt to exploit the work of its best scientists using advanced computers, electronics, and applied technology to equalize a future battlefield through inexpensive information or electronic warfare. Defense industrial R&D will focus mainly on advanced research as well as dual-use and critical technologies in what can be regarded as economy of force measures when it is not possible to match foreign spending on conventional armaments.²² These efforts require careful monitoring. However, observers who focus on the purchase of Russian arms or the production of weapons systems with 1980s technology could miss other potentially more dangerous Chinese military achievements in the 21st century. **JFQ**

NOTES

¹ To a lesser degree, China is also looking toward other foreign sources such as Israel and Pakistan for specific hardware and technology.

² For details of reported arms sales, see Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century* (Santa Monica: RAND Corporation, 1995), pp. 158–60 and Bates Gill and Taeho Kim, *China's Arms Acquisitions from Abroad; A Quest for "Superb and Secret Weapons,"* Stockholm International Peace Research Institute report no. 11 (New York: Oxford University Press, 1995), pp. 56–67.

³ See Paul Godwin's paper entitled "PLA Incorporated: Estimating China's Military Expenditures," prepared for a conference on "China's Economic Reform: The Impact on Security Policy" held on July 8–10, 1994 at the Pacific Place Conference Center, Hong Kong, pp. 18–19, for figures on 1978 to 1994. According to Agatha Ngai and Daniel Kwan in "Defense Spending to Rise 12.7%," *South China Morning Post*, March 1, 1997, this trend continues. For example, education was reported to receive over 38 billion yuan more than defense in 1997. Some funds used in civilian development of science and technology goes to the military.

⁴ Jasper Becker, "Ban on Pork Imports Upsets Weapons Deal," *South China Morning Post*, March 29, 1997, reports that the Su-27 purchase would be transacted with 70 percent hard currency and 30 percent consumer products. A Russian Ministry of Health ban on Chinese pork caused the latest snag in this arrangement.

⁵ Gill and Kim, *Arms Acquisitions*, p. 68; updated with information on transfers in 1996. See Richard D. Fisher, "How America's Friends Are Building China's Military Power" (Washington: The Heritage Foundation, November 5, 1997) for a comprehensive listing of arms sales to China.

⁶ Bill Gertz, "China Buying Russian Destroyers, Pentagon Says," *The Washington Times*, January 10–12, 1997. *Jane's Fighting Ships 1995–96* (Coulson, Surrey: Jane's Information Group, 1995), p. 119, reported on an offer in late 1994 to transfer these vessels: "If the report is correct and the bid accepted these ships should transfer in 1995." This shows how negotiations can drag on indefinitely, never actually occur, or be delayed for years. In addition, by comparison, *Jane's* lists 17 *Sovremenny* destroyers active in the Russian navy as of 1994, with the first three of the class non-operational. Six of the active ships were in the Pacific Ocean fleet.

⁷ "Russian Kamovs Set to Boost Chinese ASW," *Jane's Defence Weekly*, March 4, 1998, p. 14.

⁸ Gill and Kim, *Arms Acquisitions*, p. 55. This included the KIL0 purchase.

⁹ Gertz, "China Buying." It is unclear whether these figures include all Russian weapons to be transferred to China.

¹⁰ *Defense 96 Almanac* (Washington: Department of Defense, 1996), pp. 13–14.

¹¹ China's nuclear forces provide a minimal deterrent capability.

¹² A small sample of modern ground weapons systems (such as night vision devices) may have been acquired for test purposes. China has expressed interest in both Smerch multiple rocket launcher and ground air defense systems, but transfer of these weapons cannot be confirmed. Even if verified, the transfers probably are on such a small scale that they must be considered experimental rather than a serious effort to equip a significant portion of the ground force.

¹³ Ground force officers last saw combat against Vietnam in 1979. Small naval forces engaged in limited combat in the Paracels in 1974 and the Spratlys in 1988. PLA air force pilots have not seen combat since the Taiwan Strait Crisis of 1958.

¹⁴ John Frankenstein and Bates Gill, "Current and Future Challenges Facing Chinese Defense Industries," *The China Quarterly*, no. 146 (June 1996), p. 413.

¹⁵ Allen et al., *China's Air Force*, p. 123.

¹⁶ "China Issues White Paper on Arms," *China Daily*, November 17, 1995, p. 3.

¹⁷ Author's conversations with defense industry officials, Beijing, January 1994.

¹⁸ See Richard F. Grimmett, "Conventional Arms Transfers to Developing Nations, 1987–1994," *The DISAM Journal*, vol. 18, no. 1 (Fall 1995), pp. 59–76.

¹⁹ Central Intelligence Agency, *The World Factbook 1995*, p. 356.

²⁰ Estimates of actual expenditures vary from official budget figures (just under \$10 billion in 1997, and about \$11 billion in 1998, some 1.5 percent of GDP) to over \$100 billion. Estimates put actual defense spending between \$30 and \$40 billion; the lower figure seems the more reasonable.

²¹ "China: Finance Minister Analyzes Increase in Defense Spending," *Hong Kong Ta Kong Bao* in Chinese, March 3, 1997, in *Foreign Broadcast Information Service Daily Report*, FBIS–CHI–97–043.

²² Conversation with Mark Stokes, former assistant air attaché in Beijing, April 2, 1997.