

## 1. CHINESE MILITARY MODERNIZATION AND ARMS PROLIFERATION IN THE ASIA-PACIFIC

Bates Gill

### INTRODUCTION

Since China in the early 1990s more openly and fully sought to modernize its armed forces, very little has appeared in the official literature which explicitly links China's military modernization to arms acquisitions decisions by other Asia-Pacific actors. Indeed, few countries make explicit reference to others' acquisitions as a justification for their own programs. With the obvious exception of Taiwan, and, more recently the Philippines, addressing China's growing power remains largely a taboo subject among Beijing's neighbors. This sensitivity may be diminishing in the region, but it is not a yet a topic for open discussion.

Despite the lack of such open attention on the part of other Asian governments, this paper identifies and analyzes the linkages between Chinese military modernization and the build-up of military capabilities in the Asia-Pacific.<sup>1</sup> Four issues seem paramount in this context:

- What factors shape the relationship between China's defense acquisitions and arms build-ups underway elsewhere in the Asia-Pacific region?
- How do Beijing's political-diplomatic relationships with its neighbors affect arms acquisitions in the region?
- In what ways is China's military modernization influencing arms acquisitions by other powers?
- What responses in the region might be warranted to deal with these developments?

Four principal findings emerge from this analysis:

- The "China factor" is one among a number of factors -- and for most Asia-Pacific actors, not the primary factor -- driving military modernization in the region.
- At a time of increased uncertainty in the regional security environment, actions taken by China -- and especially actions in the South China Sea and against Taiwan -- increasingly affect arms procurement decisions for many of China's neighbors.
- The dimensions of Chinese military modernization of greatest concern to regional strategists are its emerging maritime-oriented security priorities, the steady enhancement of military operational capabilities, and foreign weapons and weapons technology acquisitions. But Chinese indigenous

defense production and conventional exports do not significantly affect regional build-ups.

- A combination of strengthened alliances and defense cooperation, bolstering of defenses for those potentially most vulnerable to Chinese provocation, and continued political and economic engagement of China will together diminish perceptions in China and among regional actors that enhanced weapons acquisitions are the best means to counter prospective security threats.

## **REGIONAL CONTEXT**

The regional context provides a number of potential explanations for the current arms modernization drive in the Asia-Pacific. However, it is difficult to draw a direct correlation between Chinese behavior and the arms build-up in the region. Beijing *has* taken actions which might be interpreted as provoking regional build-ups, but it has also taken actions which can be interpreted as building confidence and reducing the prospects for arms build-ups. In the end, the "China factor" is just one of many factors -- and for most Asia-Pacific actors, not the primary factor -- driving military modernization in the region. That said, however, provocative Chinese actions, taken in an atmosphere of strategic uncertainty and under the conditions of a "buyer's market" in armaments, will provide even greater justification for arms procurement decisions, quite possibly stimulating a longer-term arms acquisition dynamic.

### *Modernization plans*

Much media, industry, and academic attention has centered on the notion that an "arms race" is unfolding in the Asia-Pacific, but these reports overstate the causes and effects of defense trade and production trends in the region.<sup>2</sup> More recent analyses have critically examined these assessments, and suggest that the dynamics of the contemporary arms trade in the Asia-Pacific are shaped by complex economic, technological, doctrinal, political, and military factors which may have little to do with the security dilemma normally associated with arms races.<sup>3</sup>

For example, Tables 1, 2, and 3 indicate that the volume of arms imports and licensed production of conventional weapons in the Asia-Pacific experienced a general decline or remained steady for most of the past decade, but there has been a rapid increase since 1994. This recent increase contrasts with a downward trend in arms imports worldwide, accounting for the steadily increasing share of the global market attributable to arms imports in the Asia-Pacific region, which reached more than 43 per cent in 1995, as shown in Table 1. A limited number of defense markets -- notably, China, Malaysia, and South Korea, and Taiwan -- largely account for these increases.

The region's military modernization efforts can be usefully traced to three sources which are briefly sketched below: political-security concerns; techno-industrial concerns; and economic concerns.<sup>4</sup>

**Table 1. Asia-Pacific Recipients of Major Conventional Weapons, 1991-95**

| <b>Recipient</b>     |      | <b>1991</b> | <b>1992</b> | <b>1993</b> | <b>1994</b> | <b>1995</b> | <b>1991-95</b> |
|----------------------|------|-------------|-------------|-------------|-------------|-------------|----------------|
| Japan                | (4)  | 2386        | 1608        | 1260        | 829         | 799         | 6882           |
| India                | (6)  | 1799        | 1419        | 724         | 445         | 770         | 5158           |
| China                | (7)  | 188         | 1154        | 1180        | 529         | 1696        | 4747           |
| Taiwan               | (9)  | 562         | 503         | 1074        | 1110        | 980         | 4228           |
| ROK                  | (11) | 604         | 541         | 469         | 485         | 1677        | 3776           |
| Thailand             | (13) | 620         | 863         | 162         | 785         | 888         | 3318           |
| Pakistan             | (14) | 603         | 389         | 942         | 888         | 391         | 3212           |
| Indonesia            | (18) | 143         | 69          | 370         | 827         | 711         | 2120           |
| Australia            | (22) | 253         | 452         | 750         | 230         | 243         | 1928           |
| Malaysia             | (26) | 58          | 36          | 21          | 359         | 1120        | 1594           |
| Myanmar              | (32) | 249         | 38          | 358         | 0           | 310         | 956            |
| Singapore            | (36) | 335         | 74          | 116         | 181         | 91          | 797            |
| Bangladesh           | (39) | 154         | 258         | 29          | 92          | 118         | 651            |
| <b>Total</b>         |      | <b>7954</b> | <b>7404</b> | <b>7455</b> | <b>6790</b> | <b>9794</b> | <b>39397</b>   |
| <b>%global total</b> |      | <b>30.8</b> | <b>30.2</b> | <b>30.1</b> | <b>29.7</b> | <b>43.0</b> | <b>32.6</b>    |

Source: SIPRI arms trade database, May 1996. SIPRI arms transfer data are an index which indicates trends in deliveries of major conventional weapons. SIPRI arms trade statistics do not reflect purchase prices and are not comparable with economic statistics such as national accounts or foreign trade statistics. Sources and methods used in development of SIPRI arms trade figures are explained in the *SIPRI Yearbook* (Oxford University Press: Oxford, annual) and in *Sources and Methods for SIPRI Research on Military Expenditure, Arms Transfers and Arms Production*, SIPRI Fact Sheet, January 1995. Number in parentheses notes global ranking according to 1991-95 aggregate figure. Figures are SIPRI trend indicator values expressed in US\$ millions at constant (1990) values. Totals are rounded.

**Table 2. Arms Imports and Licensed Production in Eight Major East Asian Recipients, 1986-95**

| <b>1986</b> | <b>1987</b> | <b>1988</b> | <b>1989</b> | <b>1990</b> | <b>1991</b> | <b>1992</b> | <b>1993</b> | <b>1994</b> | <b>1995</b> |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 4150        | 4153        | 4761        | 4013        | 4979        | 4893        | 4847        | 4652        | 5107        | 7962        |

Source: SIPRI arms trade data base, May 1996. Figures are SIPRI trend indicator values expressed in US\$ millions at constant (1990) values. Totals are rounded. The eight recipients for this table are: China, Indonesia, Japan, Malaysia, Singapore, South Korea, Taiwan, and Thailand.

**Table 3. Number of Major Conventional Weapons Systems Imported By or Produced Under License in the Asia-Pacific, 1984-95**

| <b>Weapon category</b>      | <b>1984</b> | <b>1985</b> | <b>1986</b> | <b>1987</b> | <b>1988</b> | <b>1989</b> | <b>1990</b> | <b>1991</b> | <b>1992</b> | <b>1993</b> | <b>1994</b> | <b>1995</b> |
|-----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <i>Aircraft</i>             | 316         | 424         | 425         | 314         | 355         | 353         | 258         | 252         | 215         | 180         | 219         | 233         |
| Helicopter                  | 151         | 229         | 245         | 137         | 147         | 147         | 138         | 137         | 110         | 101         | 101         | 51          |
| Combat jet <sup>a</sup>     | 73          | 126         | 84          | 134         | 151         | 164         | 52          | 54          | 51          | 17          | 50          | 95          |
| Trainer                     | 51          | 26          | 57          | 12          | 22          | 12          | 21          | 28          | 31          | 30          | 32          | 46          |
| Transport                   | 21          | 25          | 26          | 15          | 19          | 23          | 21          | 11          | 13          | 20          | 18          | 21          |
| MP/ASW                      | 18          | 16          | 8           | 9           | 8           | 7           | 7           | 10          | 7           | 8           | 11          | 12          |
| Other <sup>b</sup>          | 2           | 2           | 5           | 7           | 8           | 0           | 19          | 12          | 3           | 4           | 7           | 8           |
| <i>Missiles</i>             | 1 838       | 3 380       | 4 246       | 3 485       | 3 578       | 3 393       | 4 175       | 4 237       | 3 264       | 3 402       | 3459        | 5005        |
| SAM/ShAM                    | 368         | 1 287       | 1 387       | 1 161       | 620         | 671         | 1 049       | 1 048       | 886         | 1 221       | 689         | 763         |
| Portable SAM                | 201         | 111         | 111         | 461         | 449         | 144         | 116         | 216         | 20          | 220         | 350         | 420         |
| Anti-ship                   | 245         | 261         | 249         | 254         | 309         | 207         | 239         | 174         | 106         | 70          | 46          | 58          |
| ATM/ASM                     | 109         | 753         | 1 553       | 753         | 1 057       | 1 049       | 1 303       | 1 175       | 1 073       | 851         | 1177        | 2237        |
| Air-to-Air                  | 915         | 933         | 911         | 775         | 1 063       | 1 277       | 1 468       | 1 624       | 1 179       | 1 040       | 1197        | 1527        |
| SSM                         | 0           | 35          | 35          | 81          | 80          | 45          | 0           | 0           | 0           | 0           |             |             |
| <i>Naval vessels</i>        | 24          | 25          | 24          | 15          | 11          | 6           | 9           | 13          | 14          | 22          | 36          | 23          |
| Frigates                    | 2           | 2           | 3           | 1           | 1           | 2           | 0           | 2           | 3           | 1           | 5           | 2           |
| Corvettes                   | 1           | 0           | 0           | 2           | 0           | 0           | 4           | 2           | 0           | 4           | 4           | 4           |
| MCM                         | 0           | 0           | 5           | 3           | 3           | 1           | 3           | 2           | 0           | 1           | 10          | 5           |
| Patrol craft                | 6           | 4           | 3           | 1           | 2           | 1           | 1           | 5           | 4           | 3           | 4           | 5           |
| FAC                         | 11          | 13          | 8           | 2           | 0           | 0           | 0           | 0           | 4           | 1           | 1           | 1           |
| Submarines                  | 4           | 4           | 4           | 5           | 5           | 1           | 1           | 1           | 1           | 1           | 2           | 3           |
| Other <sup>c</sup>          | 0           | 2           | 1           | 1           | 0           | 1           | 0           | 1           | 2           | 11          | 10          | 3           |
| <i>Armor</i>                | 748         | 653         | 498         | 757         | 338         | 581         | 809         | 552         | 236         | 133         | 321         | 570         |
| Tanks                       | 147         | 243         | 205         | 275         | 244         | 489         | 470         | 324         | 185         | 126         | 275         | 425         |
| APC/AIFV                    | 552         | 349         | 261         | 458         | 82          | 92          | 318         | 208         | 51          | 0           | 46          | 117         |
| Other <sup>d</sup>          | 49          | 61          | 32          | 24          | 12          | 0           | 21          | 20          | 0           | 7           | 0           | 28          |
| <i>Artillery</i>            | 287         | 224         | 141         | 159         | 216         | 165         | 97          | 101         | 119         | 158         | 169         | 158         |
| TG                          | 180         | 121         | 53          | 71          | 83          | 80          | 40          | 42          | 60          | 42          | 39          | 42          |
| SPG                         | 82          | 78          | 78          | 77          | 77          | 45          | 45          | 50          | 50          | 60          | 60          | 55          |
| MRL                         | 25          | 25          | 0           | 1           | 46          | 30          | 0           | 0           | 0           | 0           | 9           | 9           |
| Other <sup>e</sup>          | 0           | 0           | 10          | 10          | 10          | 10          | 12          | 9           | 9           | 56          | 61          | 52          |
| <i>Guidance &amp; radar</i> | 16          | 23          | 33          | 29          | 14          | 19          | 22          | 35          | 36          | 31          | 38          | 44          |
| Surveillance                | 9           | 18          | 20          | 13          | 4           | 3           | 8           | 9           | 10          | 15          | 23          | 24          |
| Fire control                | 7           | 5           | 13          | 16          | 10          | 16          | 14          | 26          | 26          | 16          | 15          | 20          |

<sup>a</sup> Includes fighters, ground-attack and close-support aircraft.

<sup>b</sup> Includes airborne early-warning (AEW) aircraft, electronic-intelligence (ELINT) aircraft, bombers, reconnaissance and surveillance aircraft, and light aircraft.

<sup>c</sup> Includes landing craft, survey ships and other support ships.

<sup>d</sup> Includes scout cars, armored recovery vehicles, armored artillery vehicles and bridge layers.

<sup>e</sup> Includes mortars and anti-aircraft artillery systems.

Sources: Gill, B., 'Arms acquisitions in East Asia', in *SIPRI Yearbook 1994* (Oxford University Press: Oxford, 1994), p. 553; SIPRI arms trade data base, May 1996. *Note:* This table provides data for Brunei, Cambodia, China, Indonesia, Japan, North Korea, South Korea, Laos, Malaysia, Myanmar, Philippines, Singapore, Taiwan, Thailand and Viet Nam.

*Political-security factors*

Concerns in the political-security area are having an indisputable impact on the arms trade in the Asia-Pacific. These concerns can be divided into doctrinal issues, modernization issues, and perceptions of insecurity. First, militaries throughout the region -- including those of China and most Southeast Asian nations -- have begun to shift the focus of their security concerns to external rather than internal threats. Under these conditions, the Asia-Pacific, a region with long coastlines, numerous offshore islands and several island chains, will naturally gravitate to acquisitions for air and sea surveillance and coastal defense. This procurement will include equipment to combat piracy, to protect offshore resources and territorial claims, and to maintain open and safe shipping lanes. Such a change in defense strategy will require extensive procurement from suppliers outside the region.

Second, even before the end of the Cold War, but especially since the late 1980s, militaries in the region have recognized the need to modernize their national defense capabilities. This has required that regional militaries undergo a significant modernization effort, often through foreign procurement. In many cases, modernization has become a necessity. For example, as of 1992, approximately 84 per cent of the region's combat aircraft were based on pre-1966 designs. For Cambodia, China, South Korea, Laos, Myanmar, the Philippines and Taiwan, approximately 90 per cent or more of their combat aircraft were of pre-1966 design.<sup>5</sup> As of 1992, the Philippines' largest naval vessels -- two frigates, ten corvettes and eight landing ships -- were of World War II vintage and in 1995 its air force consisted of perhaps a half dozen aging F-5 fighters; Myanmar's four largest ships were World War II corvettes; most of Thailand's frigates were built in the 1970s and some date back to the 1950s; Indonesia's frigate fleet dates to the 1970s and before; and the bulk of China's destroyer and frigate fleets are between 20 and 30 years old. All of Taiwan's destroyers, frigates and corvettes were of World War II vintage in 1992, and South Korea's fleet of destroyers was nearly 50 years old in 1994. (However, the older ships in the Taiwanese and South Korean fleets have been extensively modernized.)<sup>6</sup>

Third, less optimistic perceptions of security in the region resulting from the shifts of the post-Cold War regional order may also be driving the demand side of the arms trade equation. The perception that Russia and the United States will exercise diminished influence leads to the belief that other large powers in the region will become more assertive, or that smaller local powers will exert themselves more forcefully. For some regional rivalries -- such as between Taiwan and China, between Japan and North Korea, between North and South Korea, or among the claimants to islands in the South China Sea -- tensions may rise when there is a perceived loss of a reliable "balancer," or if the guarantees of a powerful patron lose their credibility. Sensing such uncertainty, countries will upgrade their defense capabilities. As Mohamed Jawhar, Deputy Director General of Malaysia's Institute of Strategic and International Studies, notes, "One cannot discount the fact that we do look at our neighbors as we plan our military modernization. So in that sense, one could label it an arms race, but the term is tremendously misleading."<sup>7</sup>

*Techno-industrial factors*

For the Asia-Pacific, the trade in conventional weapons also affords opportunities to enhance national defense industrial bases. This is true for both recipients and

suppliers in the region. Indigenous defense industries are increasingly perceived in the region as a critical strategic asset. Weapons and weapons technology transfers are increasingly viewed as a means to develop national techno-industrial bases; this policy is advocated at the very highest levels of policymaking in numerous states. Even in a country such as Japan, which is forbidden by law to export arms, there is a concern to preserve and enhance its defense industrial base for both military and civilian purposes.

Suppliers of military items and technologies in the Asia-Pacific share concerns similar to those among major suppliers about the importance of arms exports for sustaining the national defense industrial base. China's defense industries, for example, are in crisis, and need to find export markets for simple survival, let alone much-needed modernization of the country's defense-industrial base. Turning to the market and converting the industries to civilian production may partially address the larger problem of industrial survival. But such efforts will do little to modernize defense industrial plants. Export-led modernization of China's defense industry will be difficult, but will remain a principal factor explaining China's future efforts to export its military hardware. Other producers of advanced weapons -- notably, Singapore, South Korea and Taiwan -- will also need to rely on exports if they wish to modernize their defense industrial capacities. For example, in 1994 the then defense minister of Republic of China, Sun Chen, characterized the development of the Indigenous Defense Fighter (IDF) in the following terms:

It would not be economically efficient to produce only enough IDF fighters for our own use. To reduce the R&D costs and to make full use of resources in the ROC's aerospace industry, the Ministry of Defense will consider external sales of the plane as long as such sales benefit the ROC diplomatically and politically and cause no undesirable after effects.<sup>8</sup>

#### *Economic factors*

Under current international arms trade market conditions, recipients in the Asia-Pacific find themselves in a buyers market, and in a position to gain certain economic advantages by engaging in arms transactions sooner rather than later. With increasingly diverse sources of arms and arms technologies to choose from, it is possible to keep the cost of new equipment down by playing eager suppliers off one another, while at the same time gaining economic benefits through offsets or favorable purchasing terms. Offsets often provide employment and training for skilled labor while also assisting in the development of the national industrial base (discussed below). Furthermore, in a buyer's market, the terms of trade are often in favor of the recipients in the Asia-Pacific. Witness the Chinese receipt of its first batch of Russian Su-27s and the Malaysian deal for Russian MiG-29s: in both cases, the buyers were able to pay for a significant part of the deal in barter goods.

### **CHINESE BEHAVIOR: SOURCE OF REASSURANCE AND OF CONCERN**

As noted above, the more fluid and less certain security environment, including the actions of a major regional power such as China, are very likely to have a major effect on the arms procurement decisions of regional states. The Chinese are not oblivious to this phenomenon, even as they insist their military development threatens none of their neighbors. On the one hand, China has taken confidence-building steps

which might help restrain regional arms procurement. However, in recent years, and especially since 1995, China has also taken measures which have increasingly become a source of concern to others. Both phenomena warrant fuller discussion.

#### *Sources of Reassurance*

Since the mid-1980s, China has taken a number of steps which appear conducive to regional restraint in arms procurement. By the late 1980s, for example, the People's Liberation Army (PLA) has reduced its manpower levels by some 25 per cent, from approximately 4.2 million in 1987 to approximately 3.2 million in 1990. In early 1996, reports indicated that an additional 15 per cent reduction -- another 500,000 troops -- was under serious consideration.<sup>9</sup> The latter reductions were formally disclosed in CCP General-Secretary Jiang Zemin's political report to the Fifteenth Party Congress in September 1997.

China has also taken a number of steps intended to reduce border tensions with various neighbors. Agreements between China and Russia since the early 1990s have demarcated most of the Sino-Russian border. Beijing and Moscow also agreed not to target strategic nuclear weapons nor use them first against one another, and initiate a series of military confidence-building measures, including troop withdrawals and reductions on both sides of their shared border. Some 95 percent of the 4,355 kilometer Sino-Russian border has been agreed upon, with these demarcations advanced and ratified in visits to China by Russian President Boris Yeltsin in April 1996 and November 1997.<sup>10</sup> Additional meetings between senior leaders further strengthened what the two sides often term their "strategic partnership", and included agreements on border troop reductions and further cooperation in the trade, cultural, and military-technical spheres.

The Shanghai Accord signed on 26 April 1996 by China, Russia, Kazakhstan, Kyrgyzstan and Tajikistan, pledged all five parties to a series of security assurances: not to attack one another nor carry out exercises hostile to one another; to limit the size, scope and number of military exercises in border regions shared by the parties; to give prior notification of planned military within border regions; and increased military consultations and exchange of military observers among the parties.<sup>11</sup> In addition to these important agreements, China and India and China and Vietnam have also made progress on demarcating and demilitarizing their land borders.<sup>12</sup> In early May 1996, China also participated in drafting proposed confidence-building measures -- including advance notification on military exercises and exchange of observers at military exercises--within the ASEAN Regional Forum (ARF) Senior Officials Meeting, measures which were endorsed at the ARF meeting in Jakarta in July 1996.<sup>13</sup>

With regard to its claims in the South China, China has also taken some encouraging steps. In August and October 1995, China reached bilateral accords with the Philippines and Malaysia, respectively, intended to defuse potential disputes.<sup>14</sup> China also announced on 15 May 1996 its accession to the United Nations Convention on the Law of the Sea. This decision brought a mixed reaction from observers. Some expressed concern that Chinese claims published as part of its accession to the treaty showed a continued intention to seek territorial rights to the southernmost reaches of the South China Sea; others noted that in acceding to the treaty, China in effect had agreed to the possibility of international arbitration for which the treaty provides. It remains to be seen how and whether China will reconcile the positive and negative reactions to its decisions. In any event, China's moves prompted one prominent observer to note in May 1996, "On the two issues considered critical by Southeast Asia, China's claims in the

South China Sea and the lack of transparency in its military affairs, Beijing has started to move positively."<sup>15</sup>

With specific reference to arms proliferation activities, China released in November 1995 a 34-page publication intended to clarify its position on arms control and disarmament. Far from a true "white paper", the document revealed little in terms of new information, but at least reflected an effort by China to respond to calls for more "openness" on military-related issues.<sup>16</sup> Similarly, following two embarrassing discoveries by foreign customs and law enforcement agencies -- one involving the attempted smuggling of some 2000 Chinese-made automatic rifles to the U.S.; the other involving the discovery at Hong Kong's Kaitak airport of two Chinese training bombs bound for Israel -- the Chinese on 25 May 1996 announced its intention to implement new export control legislation and regulations.<sup>17</sup> This was followed in the summer of 1996 by an agreement in principle between Washington and Beijing to discuss possible cooperation on national export controls. In addition, China's 15-year effort to "convert" its defense industries, though not an economic success, when combined with overall economic restructuring of the Deng era, has diminished the size and scale of the country's defense industrial base. This in turn has hampered China's ability to provide weapons systems either to the PLA or to prospective clients abroad. Tables 4 and 5 indicate the decline in Chinese defense production for the PLA, and the decline in exports abroad since the late-1980s.

**Table 4. Volume of Chinese Arms Exports, 1986-95**

| 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 |
|------|------|------|------|------|------|------|------|------|------|
| 1760 | 3214 | 2212 | 1414 | 1222 | 1103 | 1159 | 1284 | 744  | 868  |

Source: SIPRI arms transfer database, 1996. SIPRI trend indicator values, expressed in constant 1990 US\$ millions. SIPRI arms transfer data are an index which indicate trends in deliveries of major conventional weapons. SIPRI arms trade statistics do not reflect purchase prices and are not comparable with economic statistics such as national accounts or foreign trade statistics. Sources and methods used in development of SIPRI arms trade figures are explained in the *SIPRI Yearbook* (Oxford University Press: Oxford, annual) and in *Sources and Methods for SIPRI Research on Military Expenditure, Arms Transfers and Arms Production*, SIPRI Fact Sheet, January 1995.

#### *Sources of concern*

In spite of these somewhat encouraging developments, China has also taken actions which stimulate perceptions of a "China threat" in parts of the Asia-Pacific. Many of the other contributions to this volume provide greater detail on bilateral tensions between China and its neighbors. The brief discussion below will touch upon those issues where political-diplomatic tensions seem to most clearly affect regional arms procurement decisions. Three warrant particular emphasis: shifts in strategic outlook; territorial claims; and differences in world view between China and many of its neighbors.

First, China has for nearly 15 years undertaken a significant shift in its strategic view, which has driven changes in doctrine, tactics, training, procurement, and deployment of its military forces. The details of these changes are given excellent treatment elsewhere, but the following principal features characterize China's emerging strategic view:

- With economic modernization as the number one priority of China's grand strategy, an increased concern with the stability and protection of coastal, offshore, and sea-based material resources, communications routes and trade access;
- A shift from land-based, protracted "People's War" concepts, to embrace a more flexible, modernized capability to respond to limited conflicts along China's periphery;
- A growing recognition that likely threats and security concerns to China will emanate from China's southeast and east (the Korean peninsula, Japan, Taiwan, Hong Kong, South China Sea, Vietnam, and the U.S. presence in the Pacific);
- A shift of procurement and logistics priorities to reflect these new concepts, with a focus on maritime assets.

As a consequence of these shifting security concerns, China has expanded its political and military presence to the east and southeast, and made clear its intention to maintain and increase its influence in these directions in the years ahead.

Second, Chinese territorial claims raise a more immediate concern among China's neighbors. The two most critical areas of territorial concern are the South China Sea and Taiwan. The 1982 United Nations Convention on the Law of the Sea (UNCLOS), which went into effect for those ratifying the treaty beginning in November 1994, has left more questions unanswered than resolved, especially with regard to overlapping "exclusive economic zones" (i.e., offshore areas of jurisdiction which extend 370 kilometers from national shorelines) which the treaty grants. Although the treaty is intended to serve as a means to delineate national claims, it does not adequately address the problem of overlapping jurisdictions. At the same time, its language provides the justification for calls among the region's navies to beef up patrol, reconnaissance, and sea denial capabilities.

For China and its neighbors, this problem is most acute in the South China Sea. According to a number of analysts, the foundation for future conflict lies in the potential for energy resources in the South China Sea and the growing demand by China and its South China Sea neighbors for new sources of energy in the years ahead.<sup>18</sup> In addition, a growing sense of "assertive nationalism" in China underlies Beijing's often-tough stance on its South China Sea claims. With its 1992 Law on Territorial Waters and Contiguous Zones, China formally staked claims to the South China Sea which make it akin to an enclosed sea under international law. Further in acceding to UNCLOS in May 1996, China underlined its claims to the entire South China Sea. But China backs up its legal claims with armed muscle. Chinese military actions -- in 1974 and 1988 against Vietnam, and again in early 1995 against Philippine claims -- further exacerbate the situation, and leave neighbors wondering about China's intentions to resolve differences peacefully.

China's assertion of its sovereignty over Taiwan, its continued refusal to rule out the use of force in relations between the mainland and Taiwan, and its highly provocative campaign of military intimidation directed against Taiwan in 1995 and early 1996 are another source of concern for many of China's neighbors. In taking such a belligerent approach to its relations with Taiwan, and contributing to raising cross-straits tensions to their highest levels in nearly 40 years, China damaged its reputation in the region. Some in the region -- especially Japan -- perceived these actions as belligerent and worrisome. More than any other action by the Chinese in the past 15 years, the military exercises directed against Taiwan in 1995 and 1996 are likely to have a direct impact upon future arms procurement decisions within the region.

### *Differing political outlooks*

Finally, China retains a domestic and world view that is in many respects at odds with internal and external trends increasingly evident in the Asia-Pacific. These trends include economic and political interdependence and multilateralism on the international scene and political pluralism and democracy within various states. China remains a non-*status quo*, dissatisfied power, determined to make up for its lost prestige and pride of place owing to the so-called "century of shame and humiliation." Influential policy circles in Beijing view much of the international community with suspicion -- particularly those which are West-leaning -- and who are supposedly opposed to China's rise. More broadly, China remains uncertain and insecure about its relationship to the global community. Blame for Chinese ills -- from internal unrest to socio-economic difficulties -- is often traced to "foreign elements" and "plots" to divide China and undermine its aspirations. Even if these characterizations are intended primarily for domestic political effect, they do exert a significant impact on regional perceptions, as well.

Counterpoised to these stark characterizations, however, official Chinese policy statements on regional security seem highly sanguine. Citing the principal destabilizing factors in the region as "the Korean peninsula, South China Sea, regional arms proliferation, and the complex relationship among regional powers", one Chinese analyst dismisses these as "historical remnants" and concludes: "All parties concerned are willing to find a peaceful solution. In the long run, the existing disputes will not pose major threats to the region's stability."<sup>19</sup> In a speech published after the Mischief Reef incident of early 1995, Chinese President Jiang Zemin noted, "China and the countries of ASEAN also share extensive consensus on the maintenance of regional security and stability and have conducted fruitful cooperation in the peaceful settlement of some regional hot spot issues."<sup>20</sup>

## **REGIONAL ARMS BUILDUPS**

China's contribution to defense build-ups in the Asia-Pacific can be seen in three ways: (1) China's exports to the region; (2) China's own arms acquisition process; (3) regional arms acquisition programs made in response to Chinese actions. Owing largely to the decline in and the generally poor quality of Chinese exports to the region, the latter two areas -- and especially Chinese arms acquisitions from foreign sources -- have had the most significant effect on the regional arms build-up.

**Table 5:  
Estimated Chinese production of selected major conventional weapons, 1981-94**

| <i>Weapon type</i>      | <i>1981</i>    | <i>1982</i>    | <i>1983</i>    | <i>1984</i>    | <i>1985</i>    | <i>1986</i>    | <i>1987</i>  | <i>1988</i>  | <i>1989</i>  | <i>1990</i>  | <i>1991</i>  | <i>1992</i>  | <i>1993</i>  | <i>1994</i>  |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>AIRCRAFT</b>         |                |                |                |                |                |                |              |              |              |              |              |              |              |              |
| J-7 fighter             | 40             | 50             | 50             | 50             | 50             | 50             | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           |
| J-8 fighter             | 10             | 10             | 10             | 10             | 10             | 10             | 12           | 12           | 12           | 20-24        | 20-24        | 20-24        | 20-24        | 20-24        |
| H-5 bomber              | 20-25          | 20-25          | 20-25          | 0              | 0              | 0              | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            |
| H-6 bomber              | 5              | 5              | 5              | 5-6            | 5-6            | 5-6            | 5-6          | 5-6          | 5-6          | 5-6          | 0            | 0            | 0            | 0            |
| JJ-5 trainer            | 50             | 50             | 50             | 50             | 50             | 50             | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            |
| JJ-6 trainer            | 50             | 50             | 50             | 50             | 50             | 50             | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            |
| JJ-7 trainer            | 0              | 0              | 0              | 0              | 0              | 0              | 0            | 0            | 0            | 0            | 1            | 2            | 2            | 2            |
| HJ-5 trainer            | 12             | 12             | 12             | 0              | 0              | 0              | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            |
| Q-5 attack              | 10-12          | 10-12          | 10-12          | 10-12          | 10-12          | 10-12          | 10-12        | 10-12        | 8-10         | 8-10         | 8-10         | 8-10         | 5            | 5            |
| <b>Total aircraft</b>   | <b>197-204</b> | <b>207-214</b> | <b>207-214</b> | <b>169-178</b> | <b>169-178</b> | <b>169-178</b> | <b>77-80</b> | <b>77-80</b> | <b>75-78</b> | <b>83-90</b> | <b>79-85</b> | <b>80-86</b> | <b>77-81</b> | <b>77-81</b> |
| <b>SHIPS</b>            |                |                |                |                |                |                |              |              |              |              |              |              |              |              |
| Destroyers              | 0              | 1              | 0              | 1              | 0              | 0              | 1            | 0            | 0            | 0            | 1            | 2            | 2            | 1            |
| Frigates                | 2              | 2              | 2              | 3              | 3              | 2              | 3            | 2            | 2            | 2            | 4            | 3            | 2            | 2            |
| <b>SUBMARINES</b>       |                |                |                |                |                |                |              |              |              |              |              |              |              |              |
| Xia SSBN                | 1              | 0              | 0              | 0              | 0              | 0              | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            |
| Han attack              | 0              | 0              | 1              | 0              | 0              | 0              | 1            | 0            | 0            | 1            | 0            | 0            | 0            | 0            |
| Ming/Wuhan C patrol     | 0              | 0              | 0              | 0              | 0              | 0              | 1            | 0            | 1            | 1            | 1            | 1            | 0            | 1            |
| <b>LAND SYSTEMS*</b>    |                |                |                |                |                |                |              |              |              |              |              |              |              |              |
| Main battle tanks       | 300            | 500            | 400            | 650-700        | 600            | 300-400        | 200-250      | 50-100       | 150          | 150          | 200          | 200          | 150-200      | 100          |
| Artillery (over 100 mm) | 275            | 175            | 175            | 175            | 200-225        | 300            | 275          | 300-350      | 250-300      | 250          | 200-250      | 200          | 200          | 150-200      |

\* Approximately one-half of the land systems shown were exported.

Source: John Frankenstein and Bates Gill, "Challenges for Chinese Defence Industries", *China Quarterly*, June 1996, Table 5.

*China's acquisitions*<sup>21</sup>

Table 5 notes the steady decline in domestic production in China. This decline is attributable to several factors: reductions in forces; a drop in procurement orders by the PLA; a reluctance by the PLA to purchase indigenously developed and produced systems; financial constraints; technological difficulties; and an ongoing process of downsizing, decentralization, and "conversion" within the defense production sector.<sup>22</sup>

Despite this general characterization, many observers point to potential concerns posed by some of China's newer weapon systems. Of China's domestically-produced weapons, perhaps of most concern in the near term is its effort to deploy a new generation of *Jiangwei* frigates and *Luhu* class destroyers (which will deploy Z-9A ASW helicopters), as well as fleet replenishment ships and landing craft. Some reports also suggest China is seeking to develop and deploy a new generation of submarines. Paul Godwin has highlighted the Chinese focus since the early 1990s on production and deployment of new *Dayun* class fleet replenishment ships and of new classes of troop transport and amphibious landing craft.<sup>23</sup> In addition, there is evidence of Chinese efforts to develop and deploy a more sophisticated range of anti-ship missiles, more powerful and accurate land-based cruise missiles, and a new generation of ballistic missiles such as the DF-21, DF-31, and DF-41. Logistical support capability -- including in-flight refueling and improved command, control and communications -- are also part of China's extensive plans for indigenous defense modernization. Taken together, these domestic R&D and production efforts are in keeping with the Chinese shift toward modernizing its maritime assets and establishing a modest power projection capability, thereby affecting the security calculations of its neighbors to the east and southeast.

Because the Chinese defense industrial base has proved in many respects inadequate to the task of narrowing the gap between the country's aspirations and its capabilities, China has since the early 1990s increasingly turned to foreign sources of weapons and military technologies. Most prominent among these sources is Russia, but others -- such as Israel, France, Italy, Pakistan, and Iran -- have also contributed to China's military modernization. Moreover, as militarily-relevant technologies are increasingly drawn from commercial and civilian-use sources, China may be able to apply a greater range of foreign-supplied goods and technologies to its military modernization goals.

Several important points can be drawn from China's experience with foreign-sourced weapons and weapons technology. First and foremost, China has rarely been successful in moving from simple reverse-engineering of foreign weapons to significantly advancing the indigenous capacity to produce new generation systems. This problem spans the past century and a half of Chinese weapons development, and has been exacerbated by myriad social, political and military upheavals over this period. Moreover, the nature of military technology -- with its emphasis on software over hardware, and digital over analog technologies -- complicates the already questionable over-reliance the Chinese have placed on reverse-engineering.

Second, in spite of this long-standing historical problem, the Chinese have little choice but to continue to rely on the importation of foreign systems as a short-cut to close the gap between strategic requirements and operational capabilities. This inescapable fact explains the focus on the development and deployment of advanced weapons systems from foreign sources--notably, the Su-27 fighters, Kilo class

submarines, cooperation in other aerospace projects with Russia, and development of the J-10 fighter with Israeli assistance -- to help meet the needs for a modest power projection capability as described above.

Looking beyond the import of "conventional" platforms, the Chinese have also shown an interest in more far more advanced systems and capabilities. A review of the Chinese defense industrial press as well as China's wish list with the Russians reveals a concentration of attention on next-generation force-multipliers: C<sup>4</sup>I systems, cruise missile technology, laser-guided bombs, satellite-based sensing and guidance systems, advanced radar and jamming systems, fighter aircraft production technologies, and advanced precision guidance capabilities.<sup>24</sup> Within the constraints of its problem-plagued defense industrial base, the Chinese will steadily seek to improve two critical aspects of its war-fighting capabilities -- precision and information -- which they recognize as key capabilities to ensure Chinese security in the future. To do so will require expanded military-technical relations with foreign suppliers.<sup>25</sup> Because these technologies are often drawn from the commercial sector, Chinese imports of "dual-use" items -- and not strictly military-use items -- will be increasingly important to the development of Chinese military capabilities.<sup>26</sup>

The Chinese are certainly aware of both the problems and opportunities presented to them by the availability of foreign-sourced weapons and militarily-relevant technologies. Some point to the gap between "needs" and "possibilities":

The relationship between needs and possibilities should be correctly handled. China is a developing socialist country, and must concentrate on economic construction, and thus the contribution of defense science and technology can develop only slowly with the development of the national economy. ... In a situation when the state is short of funds, then contracting the front and emphasizing priorities are important principles to be followed in the development of defense science and technology.<sup>27</sup>

As such, official policy continues to emphasize self-reliance. As Central Military Commission Vice-Chairman General Liu Huaqing has argued, "One of the basic principles of modernization of weapons and equipment in our Army is to mainly rely on our own strength for regeneration, while selectively importing advanced technology from abroad, centering on some areas."<sup>28</sup>

At the same time, there is increased recognition of the "revolution in military affairs" and the prospect that in the future commercial technologies will increasingly drive advances in military capabilities. For example, in October 1995, the China Defense Science Technology Information Center (CDSTIC), the information clearing-house and think-tank connected to the Commission for Science, Technology and Industry for National Defense (COSTIND), held a seminar on the topic of "military technical revolution." The seminar addressed "the intention, characteristics and development" of the military technical revolution, and the "need to renew concepts and bring about overall development in PLA military theory research."<sup>29</sup> In spelling out the needs for Chinese defense science and technology development, then COSTIND chief General Ding Henggao argued to "go all out to develop technology of dual -- military and civilian -- use" and that "weaponry R&D must actively learn from civilian technology", all in an effort to "accelerate the development of national defense science and

technology."<sup>30</sup> The former Vice-Minister of the Commission on Science, Technology, and Industry for National Defense (COSTIND), Huai Guomo, stated more explicitly:

Because national defense high technology is by its nature having multiple technologies, the differences between defense and civilian technology are becoming smaller and smaller. The trend of inter-changeability between the military and civilian is on the rise, allowing the technical foundation for an accelerated modernization of national defense and to realize the steady improvement of weapons.<sup>31</sup>

Whether China can accomplish these goals is an open question, but it is clear that to do so China will need to rely upon foreign imports and assistance.

In sum, Chinese imports of complete platforms--especially Su-27s, Kilo class submarines, and possible future purchases of Russian destroyers -- present the most immediate concern to China's neighbors, especially to Taiwan. For the next five to ten years, it is likely these imports will be modest in quantity and in operational capability and will pose a limited threat to regional interests. However, if present procurement trends continue, and looking out ten to fifteen years, the Chinese are likely to make some significant progress in bringing their forces to a higher level of operational capability. Hence regional militaries are already thinking of ways to counter this potential threat, and are acting accordingly in their own procurement plans.

#### **CHINA'S ARMS EXPORTS<sup>32</sup>**

As noted above, China's arms exports have declined considerably over the past six to eight years from peak levels reached in the mid- to late 1980s. However, while its exports have declined overall, China has met with some success in delivering weapon to its Asia-Pacific neighbors (see Table 6). Table 7 provides more specific details as to the types of weapons which China has exported to the region over the years 1986-1995.

**Table 6:**

**Volume of Chinese major conventional arms exports to Asia-Pacific recipients, 1981-95 (Recipients listed in rank order; figures are in SIPRI trend indicator values, expressed in US\$ millions at constant 1990 prices; totals may not add up exactly due to rounding)**

| Recipient/Year     | 1981       | 1982       | 1983       | 1984       | 1985       | 1986       | 1987       | 1988       | 1989        | 1990        | 1991       | 1992        | 1993       | 1994       | 1995       | TOTAL       |
|--------------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|------------|-------------|------------|------------|------------|-------------|
| <b>Pakistan</b>    | 140        | 72         | 555        | 177        | 57         | 57         | 370        | 114        | 463         | 494         | 427        | 196         | 574        | 221        | 260        | <b>4179</b> |
| <b>Thailand</b>    | 0          | 0          | 0          | 0          | 27         | 2          | 211        | 31         | 173         | 239         | 226        | 534         | 0          | 298        | 298        | <b>2039</b> |
| <b>Bangladesh</b>  | 8          | 38         | 113        | 6          | 38         | 0          | 0          | 180        | 403         | 95          | 0          | 258         | 0          | 0          | 0          | <b>1139</b> |
| <b>North Korea</b> | 16         | 277        | 29         | 44         | 25         | 198        | 174        | 254        | 6           | 24          | 0          | 24          | 0          | 0          | 0          | <b>1069</b> |
| <b>Myanmar</b>     | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 18          | 169         | 181        | 17          | 358        | 0          | 310        | <b>1052</b> |
| <b>Sri Lanka</b>   | 0          | 0          | 0          | 0          | 0          | 2          | 2          | 0          | 14          | 0           | 82         | 1           | 11         | 0          | 0          | <b>112</b>  |
| <b>Cambodia</b>    | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 2          | 0           | 18          | 0          | 0           | 0          | 0          | 0          | <b>20</b>   |
| <b>Laos</b>        | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0           | 2           | 0          | 0           | 0          | 0          | 0          | <b>2</b>    |
| <b>TOTAL</b>       | <b>164</b> | <b>387</b> | <b>697</b> | <b>227</b> | <b>147</b> | <b>259</b> | <b>757</b> | <b>581</b> | <b>1077</b> | <b>1041</b> | <b>916</b> | <b>1030</b> | <b>943</b> | <b>519</b> | <b>868</b> | <b>9612</b> |

Source: SIPRI arms trade database, March 1996

Note: SIPRI arms transfer data are an index which indicates trends in deliveries of major conventional weapons. SIPRI arms trade statistics do not reflect purchase prices and are not comparable with economic statistics such as national accounts or foreign trade statistics. Sources and methods used in development of SIPRI arms trade figures are explained in the *SIPRI Yearbook* and in *Sources and Methods for SIPRI Research on Military Expenditure, Arms Transfers and Arms Production*, SIPRI Fact Sheet, January 1995.

Table 7.

**Imports and Licensed Production of Chinese Major Conventional Weapons by Asia-Pacific Recipients, 1985-1995 (data in parentheses are estimates)**

| <b>Recipient</b>                       | <b>Weapon type</b>                     | <b>Delivery year</b>  | <b>Number delivered</b> |       |
|--|--|-----------------------|-------------------------|-------|
| <b>Bangladesh</b>                      | A-5C Fantan fighter/ground attack      | 1989-90               | (20)                    |       |
|  | BT-6 trainer                           | 1979-85               | (38)                    |       |
|  | F-6 fighter                            | 1992                  | (40)                    |       |
|  | F-7M Airguard fighter                  | 1989                  | (21)                    |       |
|  | T-62 light tank                        | 1985                  | (36)                    |       |
|  | HY-2 ship-to-ship missile system       | 1988-89, 1992         | 6                       |       |
|  | HY-2 ship-to-ship missile              | 1988-89, 1992         | (64)                    |       |
|  | Square Tie surveillance radar          | 1989                  | 1                       |       |
|  | Hainan Class patrol craft              | 1982-85               | 2                       |       |
|  | Huangfen fast attack craft             | 1988, 1992            | 5                       |       |
|  | Huchuan fast attack craft              | 1988                  | 4                       |       |
|  | Jianghu class frigate                  | 1989                  | 1                       |       |
|  | <b>Cambodia *</b>                      | T-60 122mm towed gun  | 1988                    | 6     |
|  |  | T-59 main battle tank | 1990                    | 24    |
| HY-5A portable surface-to-air missile  |  | 1988                  | (20)                    |       |
| <b>Myanmar</b>                         | A-5M fighter/ground attack             | 1995                  | (12)                    |       |
|  | F-6 fighter                            | 1991                  | (12)                    |       |
|  | F-7M Airguard fighter                  | 1990-95               | (29)                    |       |
|  | FT-7 fighter trainer                   | 1990-95               | (6)                     |       |
|  | T-63 107mm multiple rocket launcher    | 1993                  | (30)                    |       |
|  | T-62 light tank                        | 1989-90, 1993         | (105)                   |       |
|  | T-69-II main battle tank               | 1990, 1995            | (80)                    |       |
|  | YW-531H armored personnel carrier      | 1993                  | 150                     |       |
|  | JY-8A fire control radar               | 1993                  | 1                       |       |
|  | T-311 fire control radar               | 1993                  | (6)                     |       |
|  | HY-5A portable surface-to-air missile  | 1991-92               | (200)                   |       |
|  | PL-2B air-to-air missile               | 1990-92               | (48)                    |       |
|  | Hainan class patrol craft              | 1991-93               | 10                      |       |
|  | <b>North Korea</b>                     | F-6 fighter           | 1986-88                 | (100) |
| T-63 130mm multiple rocket launcher    |  | 1982-85               | (100)                   |       |
| HY-2 ship-to-ship missile‡             |  | 1977-89               | (156)                   |       |
| HN-5A portable surface-to-air missile‡ |  | 1983-94               | (600)                   |       |
| Romeo class submarine‡                 |  | 1975-92               | (15)                    |       |
| <b>Pakistan</b>                        |  | F-7MP Airguard        | 1985-93                 | (120) |
|  | FT-7/FT-7P trainer                     | 1987, 1991            | (19)                    |       |
|  | K-8 jet trainer                        | 1994-95               | (12)                    |       |
|  | M-11 surface-to-surface missile system | (1991)                | 20                      |       |
|  | M-11 surface-to-surface missile        | (1991)                | (55)                    |       |
|  | T-59 main battle tank                  | 1977-88               | (825)                   |       |
|  | T-69 main battle tank                  | 1989-91               | (275)                   |       |
|  | T-85-II-AP main battle                 | 1992-95               | (282)                   |       |
|  | Fuqing class support ship              | 1987                  | 1                       |       |

|                  |                                       |               |       |
|------------------|---------------------------------------|---------------|-------|
|                  | P-58A patrol craft                    | 1989-90       | 4     |
|                  | T-69-II main battle tank‡             | 1991-95       | (339) |
|                  | Anza-2 surface-to-air missile‡        | 1989-95       | (650) |
|                  | HJ-8 anti-tank missile‡               | 1990-93       | (200) |
| <b>Sri Lanka</b> | F-7BS fighter                         | 1991          | 5     |
|                  | FT-5 jet trainer                      | 1991          | 2     |
|                  | Y-12 transport aircraft               | 1986-89, 1991 | (9)   |
|                  | Y-8 transport aircraft                | 1989, 1993    | (4)   |
|                  | T-59-1 130mm towed gun                | 1991          | (12)  |
|                  | YW-531 armored personnel carrier      | 1991-92       | (20)  |
|                  | WZ-551 infantry fighting vehicle      | 1991          | (10)  |
|                  | Shanghai class patrol craft           | 1991          | 3     |
| <b>Thailand</b>  | T-59-1 130 mm towed gun               | 1985-88       | (54)  |
|                  | T-81 122mm multiple rocket launcher   | 1988          | (36)  |
|                  | T-85 130mm multiple rocket launcher   | 1988-89       | (60)  |
|                  | T-59 main battle tank                 | 1985-87       | (60)  |
|                  | T-69 main battle tank                 | 1989-92       | (473) |
|                  | YW-531 armored personnel carrier      | 1987, 1990-91 | (770) |
|                  | C-801 ship-to-ship missile system     | 1991-92       | 4     |
|                  | C-801 ship-to-ship missile            | 1991-92       | (96)  |
|                  | HQ-2B surface-to-air missile system   | 1989          | 1     |
|                  | HQ-2B surface-to-air missile          | 1989          | (12)  |
|                  | HY-5A portable surface-to-air missile | 1987-88       | (68)  |
|                  | T-311 fire control radar              | 1991-92       | (25)  |
|                  | T-341 fire control radar              | 1991-92       | 4     |
|                  | Jianghu class frigate                 | 1992          | 2     |
|                  | Naresuan class frigate                | 1994-95       | 2     |

Source: SIPRI arms trade data base, March 1996.

NOTE: \*Items shown under Cambodia were delivered to the Khmer Rouge. ‡Items produced under license.

Four main points can be drawn with regard to Chinese weapons exports and proliferation in the Asia-Pacific. First, Pakistan stands out as the primary Asia-Pacific recipient of Chinese weapons since 1985. Closer to East Asia, Thailand, North Korea, and Myanmar have been the largest importers of Chinese arms. However, it is likely that imports from China to several of these states have either ceased altogether, or will do so quite soon. This has already happened in the case of North Korea, which has not imported major conventional weapons from China (except for some minor licensed production) since the early 1990s. Even licensed production of Chinese weapons in North Korea has slowed or halted in recent years.<sup>33</sup> Chinese shipments to Thailand, which sprang from the joint efforts of both countries to counter Vietnam in the early to mid-1980s, have proved a disappointment to Bangkok. Thai armed forces found the equipment to be of very poor quality, and with the final delivery of the *Jianghu* frigates (arriving as hulls for refitting with Western subsystems and propulsion), further deliveries of Chinese systems will be curtailed.<sup>34</sup> Myanmar, however, with few alternative options, has considerably expanded its imports from China since the late 1980s, and even overtook Pakistan as the largest recipient of Chinese arms exports in 1995. Myanmar appears likely to continue its military ties to China, including arms trade arrangements.<sup>35</sup>

Second, Chinese exports to the region will probably go through further decline -- both in quantity and number of recipients -- in the years immediately ahead. For the near future, it appears that only Pakistan and Myanmar will sustain a significant arms import relationship with China, and they are unlikely to grow substantially.

Third, with the exception of M-11 missile exports and transfer of nuclear technology to Pakistan, Chinese arms exports do little to affect regional balances or drive arms races in the region. If we focus on East Asia in particular, this point is especially pronounced. Chinese arms shipments tend to be relatively small, on-off affairs, and comprise aging technologies and weapons platforms. Where Chinese arms exports have been the greatest in East Asia since the late 1980s -- to Thailand and Myanmar -- these weapons do not pose an offensive threat.

A possible, but very poorly understood, exception to this point would be North Korea. The extent to which Chinese technology and expertise has contributed to the development of North Korean nuclear weapons and ballistic missile programs continues to be subject to widely divergent estimates.<sup>36</sup> Chinese officials and scientists adamantly deny claims of a substantial role. However, at least one author traces Sino-North Korean nuclear-related cooperation to 1952 with the visit to North Korea of a leading Chinese scientist to search for and collect radioactive materials.<sup>37</sup> But another analyst writes that North Korea received "little technical support from China" in its quest to develop a nuclear weapon.<sup>38</sup> With regard to ballistic missiles, the Chinese claim the two sides had little or no contact in military-technical relations during the critical period of the late 1970s when North Korean missile development began to accelerate.<sup>39</sup> However, several analysts point to extensive PRC-DPRK cooperation in missile development dating from the mid-1960s, and including work on Scuds, as well as coastal missiles such as the SS-C-2b Samlet and the HY-1 and HY-2 Silkworm. There is also limited evidence that China played a role in the early stages of North Korea's chemical weapons development.<sup>40</sup>

These points suggest that Chinese conventional arms exports should not be considered as contributory to arms proliferation or arms races in the Asia-Pacific. Nuclear arms and ballistic missile proliferation pose a different and more murky set of issues, with Chinese exports to Pakistan presenting the only persuasive evidence of such proliferation within the Asia-Pacific region as a whole.

## **REGIONAL ACQUISITIONS**

It is difficult to specify how Chinese actions have directly resulted in arms acquisitions among China's neighbors. As noted previously, few official statements make direct reference to Chinese policies and resultant military procurement by regional militaries. However, the build-up in Chinese military capabilities and that of China's neighbors have followed a parallel track since the late 1980s and early 1990s, and numerous unofficial analyses claim that Beijing's build-up has fueled regional acquisitions. For example, it appears that in recent years, and especially since the Mischief Reef incident of early 1995 and the Taiwan Straits tensions of 1995 and 1996, more regional militaries will calculate their arms procurement decisions with China in mind.

Taiwan and the Philippines offer the most obvious cases in which military build-ups and force modernization have responded to Chinese actions. Taiwan's military

modernization efforts over the past ten years can be directly traced to its changed strategic view, and the increased need to counter the slow but steady improvement in the mainland's capabilities. In the first instance, with the strategic decision in the early 1980s to give up claims to "recover the mainland", Taiwan's force structure have shifted from largely land-based "offensive-defense" to a "defensive-defense" to ward off Chinese military actions against the island. As a result, top priority is given to the rapid modernization of Taiwan's air and maritime defense capabilities.

Taiwan's foreign acquisitions of F-16s, *Mirage 2000-5s*, E-2T *Hawkeye* early warning/command and control aircraft, *Lafayette* frigates, *Knox-class* frigates, and modified *Patriot* air defense system are indicative of these new capabilities. In addition, Taiwan has developed and deployed a number of its own systems to meet these new priorities, including the *Chiang Wang* automated island-wide air defense network, the Indigenous Defense Fighter, the *Tien Kung I* and II surface-to-air missiles, the *Tien Chien I* and II air-to-air missiles, the *Hsiung Feng I* and II antiship missiles, and license-produced *Cheng Kung* frigates (U.S. *Perry* class).

The two areas where Taiwan is having the greatest difficulty in its acquisition strategies, and where it appears most vulnerable to the Chinese build-up, are in antisubmarine warfare (ASW) capabilities and in defending against cruise and ballistic missile attack. To counter Chinese improvements in its submarine fleet and in the development of cruise and ballistic missiles, Taiwan will continue to bolster its frigate and ASW helicopter fleets, will continue to push to acquire submarines from the U.S. or other sources, and will seek upgrades to its missile defense system. The China-Taiwan arms rivalry is therefore closest to a genuine "arms race" in the Asia-Pacific.

Arms procurement programs by the Philippines offer some additional evidence of this phenomenon, but on a much smaller scale. It is certainly no coincidence that following the Chinese seizure of Mischief Reef in early 1995, the Philippine legislature promptly expressed its approval for a proposed USD\$12 billion 15-year military modernization package which had been under consideration for some time. The initial USD\$2 billion for this program, formally appropriated in July 1995, will go toward the acquisition of modern fighters and modern maritime patrol and reconnaissance assets. Following China's exercises and missile firings in the Taiwan Strait, Philippine defense officials arrived in Washington seeking low- to no-cost military equipment from the U.S. including attack helicopters, air defense radars, multi-role fighters, frigates and coastal defense craft equipped with Harpoon antiship missiles. In the words of Philippine armed forces chief of staff, "The China-Taiwan events [have] been a wake-up call for us all."<sup>41</sup> Jose Almonte, security adviser to the Philippine president and director-general of the Philippine National Security Council was more direct:

China's brusque attempt to intimidate Taiwan ... shattered the region's assumption that drawing Beijing into East Asia's web of economic interests would moderate its political behavior. ...But the March [1996] events have renewed anxieties in East Asia about its huge neighbor and the stability of the world's fastest growing region.<sup>42</sup>

From discussions with Japanese defense officials, security analysts and legislators, China's military activities oriented against Taiwan focused minds in Tokyo about its own military capabilities and responsibilities as an ally of the United States. Official Japanese statements and policies since 1994 have been more critical of Chinese military behavior, from nuclear testing, to actions in the South China Sea, to provocations against

Taiwan. Moreover, the strengthened commitment of the U.S.-Japan military alliance undertaken through the Defense Guidelines review and announced in ? 1997, no doubt had an emergent China in mind. China, for its part, expressed concern with what it termed a "build-up" of Japanese self-defense forces, suggesting the possibility for increased Sino-Japanese tensions and "arms racing" in the future. The Chinese Foreign Ministry spokesman warned, "if Japan's self defense forces further build up armaments, it is bound to cause concern and vigilance among other Asian nations. We urge Japan to move with caution."<sup>43</sup>

Chinese ballistic missile activities are also part of the motivation behind U.S.-Japan deliberations over theater-missile defense (TMD) and theater high-altitude air defenses (THAAD). Joint U.S.-Japan development of these systems would be aimed not only at countering North Korean missile threats, but also possible threats from China. While the United States has for several years encouraged Japan to take part in the development and deployment of TMD -- and looking further out, THAAD -- the Japanese have been reluctant to do so owing to R&D costs and technology-sharing arrangements. However, with the Chinese missile firings against Taiwan in 1995 and 1996, increased pressure from the United States, and the reaffirmation of the U.S.-Japan security pact, some analysts expect that Japan will ultimately join the U.S. in TMD development and deployment.<sup>44</sup> Chinese officials and analysts have indicated both publicly and privately its concern that such a system would be directed against China.

Comparable trends are evident on the part of South Korea. Shortly after the tensions in the Taiwan Strait eased in early 1996, the semi-official *Korea News Review* issued a remarkably frank assessment on why South Korea needed to develop a "strong blue water navy." The report asked whether South Koreans could afford to be "apathetic" to Chinese behavior:

South Koreans, surrounded by military powers, should begin to have second thoughts to the existing notion of national security as mere defense from the threat from North Korea. ... Beijing's tough reaction to Taipei's move toward independence shows a sense that China's military muscle is by no means a matter of indifference to neighboring countries, including South Korea.<sup>45</sup>

In May 1996, the South Korean air force chief of staff was quoted as urging the need for a "strategic" force -- including AWACS, in-flight refueling capability, anti-missile systems, and advanced fighters -- pointing to "looming signs that conflicts of interest will deepen among countries in this region in the 21st century."<sup>46</sup> South Korean defense capabilities are thus expanding to counter potential threats other than that posed by North Korea. These capabilities include the acquisition of 120 F-16s from the U.S. A lengthy list of other future weapons purchases from the United States is likely to include: 100 AIM-120 air-to-air missiles, 32 *Harpoon* anti-ship missiles, guided missile systems and radars for the KDX destroyer program, and eight (and perhaps up to 21) P-3C *Orion* maritime surveillance aircraft. The U.S. has also encouraged South Korea to purchase *Patriot* anti-missile systems and the two sides have discussed the possibility of cooperating with Japan in the development of a more advanced theater missile defense system as a way to counter the potential missile threats. In addition, major indigenous defense production programs include the deployment of up to 14 more Type 209 submarines (in addition to the current four) licensed produced from Germany, and production of the KDX destroyer, outfitted with Western subsystems. These purchases

likely reflect a longer-term concern with Japanese, as well as Chinese, military capabilities.

Others in the region -- especially in Southeast Asia -- often seek to avoid offending China or suggesting that their military procurement is in any way responsive to a "China threat." For example, Prime Minister Mahathir of Malaysia in response to Chinese military harassment of Taiwan in March 1996, said "I don't think we should take that as an indicator that China is an aggressive nation and will solve all problems through military means."<sup>47</sup>

But even one long-time supporter of China, Singapore Senior Minister Lee Kuan Yew, was compelled to issue some words of caution to Beijing during the Taiwan Straits tensions of early 1996. Lee warned that regional neighbors "will not understand why China cannot be patient and resolve the matter peacefully when using force will damage both China and Taiwan, and also hurt third parties [and] set back a real chance China now has of becoming an industrialized nation in 25 years."<sup>48</sup> Indonesia has appeared to take more concrete action with the conclusion of a defense cooperation pact with Australia in December 1995, as well as the purchase of 24 British Hawk fighter/ground attack aircraft and pending purchase of advanced combat aircraft from Russia. Some analysts and officials linked these moves in part to concerns over China.<sup>49</sup> Privately, moreover, officials and analysts in the region often express concern over Chinese military acquisitions, especially in light of the Mischief Reef incident and China's high-risk belligerence toward Taiwan during 1995 and 1996.

## CONCLUSIONS

There is an increasing correlation between Chinese military modernization and decisions by China's neighbors to upgrade their military forces. These developments cannot be characterized as an "arms race" (except perhaps, in the China-Taiwan case) or even "arms proliferation," nor can the China factor be singled out as the sole cause of regional arms acquisitions. Nevertheless, China's force modernization, when coupled with its apparent willingness to view force and threats as political options to settle political disputes, may contribute to more China-specific build-ups in the region in the years ahead.

In the face of such prospects, what security-enhancing responses are available to China's neighbors? Three principal responses seem most plausible, the combination of which may work to maintain regional stability, while at the same time encouraging the reduction of latent tensions between China and its neighbors.

First, alliances, bilateral security arrangements and multilateral defense cooperation in the Asia-Pacific are all being strengthened. U.S.-Japan, U.S.-South Korea, and, less formally, U.S.-Taiwan cooperation will serve as stabilizing factors in the region as a whole. Even some Chinese officials and strategists, when pressed, will concede that the U.S. presence in the Western Pacific -- while not welcome indefinitely -- is understandable under current circumstances. In bringing increased predictability to the regional security environment, offering confidence to less powerful regional actors, and deterring moves to fill "power vacuums," these arrangements contribute to slowing indigenous weapons development programs and the potential for arms races.

Second, military establishments in the region -- especially those most closely affected by China's growing power -- are certain to continue their defense modernization efforts to achieve greater balance with China. None of Beijing's neighbors can hope over the long-term to singly prevail in a major military confrontation with China. But in the short term, some moves to modernize their forces could stave off provocative actions by China, and sensitize Beijing to the implications of its future military development.

Third, regional actors will continue and expand their efforts to "bring China in" through political and economic interdependence. China's military modernization and its recent belligerence do not necessarily extrapolate in a straight line to future Chinese aggression and regional hegemony. Enhanced interdependence has very likely had some moderating effect on Chinese behavior. As noted above, while China has become more recalcitrant and threatening on some fronts, it has also acted with restraint and shown some willingness to abide by more reasonable norms of international behavior in other areas. But it is also not possible to extrapolate directly from these cooperative actions. China's overall record on multilateral problem-solving has been very limited, and under current political conditions in Beijing, little political capital is to be gained through undue reliance on such measures.

A combination of strengthened alliances and defense cooperation, bolstering of defenses for those most vulnerable to Chinese provocations, and continued political and economic engagement of China, when taken together, diminish perceptions in China and among regional actors that increased weapons purchases are the best means to counter potential threats.

---

<sup>1</sup> While few studies have addressed this linkage directly, a number of analyses have addressed the general security relationship between China's growing power and its neighbors. See for example, Jing-dong Yuan, "China's Defense Modernization: Implications for Asia-Pacific Security," *Contemporary Southeast Asia*, June 1995, pp.67-84; You Ji, "A Test Case for China's Defense and Foreign Policies," *Contemporary Southeast Asia*, March 1995, pp.375-403; Nayan Chanda, "Power Game," *Far Eastern Economic Review Asia Yearbook 1995*, December 1994, pp.20-25; Jun Zhan, "China Goes to the Blue Waters: The Navy, Seapower Mentality, and the South China Sea," *Journal of Strategic Studies*, September 1994, pp.180-208; Denny Roy, "Hegemon on the Horizon: China's Threat to East Asian Security," *International Security*, Summer 1994, pp.149-168; Michael G. Gallagher, "China's Illusory Threat to the South China Sea," *International Security*, Summer 1994, pp.169-194; David Shambaugh, "Growing Strong: China's Challenge to Asian Security," *Survival*, Summer 1994, pp.43-59; Philip L. Ritcheson, "China's Impact on Southeast Asian Security," *Military Review*, May 1994, pp.44-57; Lee Lai To, "ASEAN-PRC Political and Security Cooperation: Problems, Proposals, and Prospects," *Asian Survey*, November 1993, pp.1095-1104.

<sup>2</sup> See, for example, Michael T. Klare, "The next great arms race," *Foreign Affairs* (Summer 1993), p.136; Pierre Le Corre, "La fièvre des armes," *Bilan*, July-Aug. 1993, p.42; Andrew Mack, *Arms Proliferation in the Asia-Pacific: Causes and Prospects for Control*, Research School of Pacific Studies Department of International Relations Working Paper no. 1992/10 (Australian National University: Canberra, December 1992); Gerald Segal, "Managing new arms races in the Asia/Pacific," *Washington Quarterly* (Summer 1992), p.83; Gerald Segal, "New arms races in Asia," *Jane's Intelligence Review* (June 1992), p.269; Andrew Mack and Desmond Ball, "The military build-up in Asia-Pacific," *Pacific Review*, vol.5, no.3 (1992), p.197.

<sup>3</sup> Bates Gill, "Arms acquisitions in East Asia," in *SIPRI Yearbook 1994* (Oxford University Press: Oxford, 1994), pp.551-62; Desmond Ball, *Trends in Military Acquisitions in the Asia-Pacific Region: Implications for Security and Prospects for Constraints and Controls*, Strategic and Defense Studies Centre Working Paper no.273 (Australian National University: Canberra, 1993). See also Shannon Selin, *Asia Pacific Arms Buildups, Part One: Scope, Causes and Problems*, Working Paper no.6 (University of British Columbia, Institute of International Relations: Vancouver, November 1994), especially pp.39-48.

<sup>4</sup> Desmond Ball proposes thirteen explanatory factors driving the arms modernization effort in the region: growth in availability of resources; requirements of self-reliance; drawdown of US presence; concerns over intentions of regional powers such as China, Japan, and India; increased salience of regional conflict; protection and surveillance of exclusive economic zones (EEZs); broadening of regional security concerns; prestige; technology acquisition; corruption; supply-side pressures; preemption of possible restraints on arms transfers; arms race dynamics. See Ball (note 3), pp.3-13.

<sup>5</sup> This information on combat aircraft is calculated from Randall Forsberg and Jonathan Cohen, *The Global Arms Market: Prospects for the Coming Decade* (Institute for Defense and Disarmament Studies: Boston, January 1994), appendix 1.

<sup>6</sup> *Jane's Fighting Ships, 1992-1993* (Jane's Information Group: Coulsdon, Surrey, 1992).

<sup>7</sup> Quoted in Barbara Opall, "Nations eye neighbors, upgrade armed forces," *Defense News*, 6-12 September 1993, p.8.

<sup>8</sup> Dennis Van Vrancken Hickey, "Interview with Sun Chen, Taiwan's Defense Minister," *Asian Defense Journal*, February 1994, p.35.

<sup>9</sup> "Cuts seen in Chinese military," *International Herald Tribune*, 17 January 1996, p.4.

<sup>10</sup> See Jiang Yi, "Sino-Russian Ties: New Constructive Partnership," *Beijing Review*, 13-19 November 1995, p.9; Teresa Poole, "Peking Agrees to Border Treaty," *The Independent*, 27 April 1996, p.9; "Joint Statement by the People's Republic of China and the Russian Federation," 25 April 1996, in *Beijing Review*, 13-19 May 1996, pp.6-8.

<sup>11</sup> Yu Lei, "Five-way border pledge signed," *China Daily*, 27 April 1996, p.A1, as cited in *NAPSNet Daily Report*, Nautilus Institute, 7 May 1996; Tony Walker, "China, Russia and 3 republics in border pact," *Financial Times*, 27-28 April 1996, p.3.

<sup>12</sup> *Agreement between the Government of the Republic of India and the Government of the People's Republic of China on the Maintenance of Peace and Tranquility Along the Line of Actual Control in the India-China Border Areas*, signed in Beijing on 7 September 1993; "China and Vietnam sign border pact," *International Herald Tribune*, 20 October 1993, p.2; "Beijing-Hanoi Border Talks," *International Herald Tribune*, 24 January 1996, p.4.

<sup>13</sup> Michael Richardson, "China Joins an Asia-Pacific Military 'Confidence-Building' Agreement," *International Herald Tribune*, 9 May 1996, p.2.

<sup>14</sup> Edward Luce, "Philippines agrees bilateral Spratlys deal with China," *Financial Times*, 11 August 1995, p.14; "China-Malaysia Spratly accord," *Financial Times*, 27 October 1995, p.4.

<sup>15</sup> Jusuf Wanandi, Chairman of the Supervisory Board of Jakarta-based Center for Strategic and International Studies quoted in Richardson (note 13).

<sup>16</sup> *China: Arms Control and Disarmament* (Information Office of the State Council: Beijing, November 1995).

<sup>17</sup> See Bruce Gilley and Nigel Holloway, "Guns and Money," *Far Eastern Economic Review*, 6 June 1996, p.16.

<sup>18</sup> On the role of oil resources in shaping political-diplomatic tensions between China and its neighbors, see for example, Mamdouh G. Salameh, "China, Oil and the Risk of Conflict," *Survival*, vol.37, no.4 (Winter, 1995-96), pp.133-46. China's Geology and Mineral Resources Minister Song Ruixiang has been quoted as saying that the Spratly

---

Islands oil reserves could be as much as 30 billion tons. "China," *Asian Defense Journal*, October 1994, p.102.

<sup>19</sup> Guo Zhenyuan, "Asian-Pacific Region Remains Peaceful," *Beijing Review*, 5-11 February 1996, p.8.

<sup>20</sup> Quoted in "China's Policy Toward East Asia," *Peace* [Beijing], March 1995, p. 4.

<sup>21</sup> Chinese domestic defense procurement and arms acquisitions from abroad are given detailed treatment elsewhere. Bates Gill and Taeho Kim, *China's Arms Acquisitions from Abroad: A Search for "Superb and Secret" Weapons* (Oxford University Press: Oxford, 1995); John Frankenstein and Bates Gill, "Current and Future Challenges Facing Chinese Defense Industries," *China Quarterly*, June 1996, pp. 394-427.

<sup>22</sup> For an account of how these processes are affecting domestic procurement of indigenously produced military aircraft, see Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century* (RAND: Santa Monica, 1995), especially chap. 8.

<sup>23</sup> Paul H. B. Godwin, "From Continent to Periphery: PLA Doctrine, Strategy and Capabilities Towards 2000," *China Quarterly*, June 1996, pp. 464-487.

<sup>24</sup> This listing developed from a review of various issues of the *Defense Science, Technology and Industry Monthly Report* (U.S. Consulate General: Hong Kong) and personal discussions with Chinese defense science and technology officials.

<sup>25</sup> These points are given more detailed discussion in Richard Bitzinger and Bates Gill, *Gearing Up for High-Tech Warfare?: Chinese and Taiwanese Defense Modernization and Implications for Military Confrontation Across the Taiwan Strait, 1995-2005* (Center for Strategic and Budgetary Assessments: Washington, D.C., February 1996), especially pp. 8-12.

<sup>26</sup> The broader issues of technology transfers presented by such developments as the Hua-Mei and McDonnell Douglas affairs of 1996 represent the beginning of what is likely to be an increasingly contentious aspect of U.S.-China relations. See, Bruce Gilley, "Peace Dividend," *Far Eastern Economic Review*, 11 January 1996, pp. 14-16; Jeff Gerth and David E. Sanger, "Aircraft Deal With Chinese is Questioned," *The New York Times*, 30 October 1996, p. 1. Comprehensive and detailed reports are available in United States General Accounting Office, *Export Controls: Sale of Telecommunications Equipment to China*, GAO/NSIAD-97-5 (General Accounting Office: Washington, D.C., November 1996); United States General Accounting Office, *Export Controls: Sensitive Machine Tool Exports to China*, GAO/NSIAD-97-4 (General Accounting Office: Washington, D.C., November 1996).

<sup>27</sup> Xie Guang et al., eds., *Dangdai Zhongguo de Goufang Keji Shiye*, vol.2 [*Science and Technological Undertakings of National Defense*](Dangdai Zhongguo Chubanshe: Beijing, 1992), pp.493, 494 (author's translation).

<sup>28</sup> *Jiefang Ribao*, 6 August 1993 cited in "Liu Huaqing Writes on Military Modernization," Foreign Broadcast Information Service, *Daily Report: China* (FBIS-CHI), 18 August 1995, p. 19.

<sup>29</sup> *Liberation Army Daily*, 29 October 1995, cited in *PLA Activities Report* (U.S. Consulate General: Hong Kong, October 1995), pp. 26-27. In early 1996, the Academy of Military Sciences published a special issue of the *China Military Review* devoted to a discussion of the revolution in military affairs.

<sup>30</sup> *Zhongguo Junshi Kexue* [*China Military Science*], cited in "Costind Director Ding Henggao on Defense S&T," FBIS-CHI, 7 December 1995, pp. 35, 37. This article is one of the most comprehensive and detailed to appear on the needs of the Chinese defense science, technological and industrial base.

---

<sup>31</sup> Xiang Wang, "Xiandai junshi keji fazhan yu junzhuanmin: guofang kecong wei Huai Guomo fuzhuren fangtanlu" ["Development of modern defense technology and defense conversion: Interview with Huai Guomo, Vice-Minister of the Commission of Science, Technology and Industry for National Defense"] *Xiandai Junshi [Commilit]*, no.196 (May 1993), p. 4 (author's translation).

<sup>32</sup> Comprehensive studies of Chinese arms exports include, Bates Gill, *Chinese Arms Transfers* (Praeger: New York, 1992); Karl W. Eikenberry, *Explaining and Influencing Chinese Arms Transfers*, McNair Paper 36 (Institute for National Strategic Studies: Washington, D.C., February 1995); Richard A. Bitzinger, "Arms to Go," *International Security*, Fall 1992, pp. 84-111; John Lewis, Hua Di, and Xue Litai, "Beijing's Defense Establishment," *International Security*, Fall 1991, pp. 87-107; Anne Gilks and Gerald Segal, *China and the Arms Trade* (St. Martin's Press: New York, 1985).

<sup>33</sup> A report from South Korea in late 1996, quoting the South Korean embassy in Beijing, claimed that China continues to provide "arms and munitions" to North Korea. However, the amounts noted--about US\$3.46 million in 1996, and US\$996,000 in 1995--suggest these exports are relatively minor shipments of munitions and small arms. See "PRC Arms Sales to the DPRK Doubles Last Year's," *Chosun Ilbo*, 11 December 1996, and reprinted in *NAPSNet Daily Report*, 11 December 1996.

<sup>34</sup> On motivations behind Sino-Thai arms trade, see R. Bates Gill, "China Looks to Thailand: Exporting Arms, Exporting Influence," *Asian Survey*, June 1991, pp. 526-39. On the poor quality of Chinese equipment in Thailand, see Gill and Kim (note 21), pp. 103-05.

<sup>35</sup> See Eric Hyer, "Sideshow: The Developing China-Myanmar Security Relationship", paper presented at the 35th Annual Conventional of the International Studies Association, Washington, D.C., 28 March-1 April 1994.

<sup>36</sup> Sources on Chinese contributions to North Korean nuclear weapons and ballistic missile capabilities include, Hua Di, "China's Case: Ballistic Missile Proliferation," in William C. Potter and Harlan W. Jencks, eds., *The International Missile Bazaar* (Westview Press: Boulder, 1994), especially pp. 163-64; David Wright and Timur Kadyshev, "The North Korean Missile Program: How Advanced Is It?" *Arms Control Today*, April 1994, pp. 9-12; Joseph S. Bermudez, "New Developments in North Korean Missile Programme," *Jane's Soviet Intelligence Review*, August 1990, pp. 343-45; Michael Ertman, "North Korean Arms Capabilities and Implications," *Korea and World Affairs*, Winter 1993, p.607; Joseph S. Bermudez, Jr. and W. Seth Carus, "The North Korean 'Scud B' Programme," *Jane's Soviet Intelligence Review*, April 1989, pp. 177-81.

<sup>37</sup> Ertman (note 36), p. 607

<sup>38</sup> Michael J. Mazarr, *North Korea and the Bomb: A Case Study in Nonproliferation* (St. Martin's Press: New York, 1995), p. 46.

<sup>39</sup> Hua Di (note 36), p. 164 notes that "the intended BM [ballistic missile] proliferation to North Korea .. was put aside [in 1978] and never resumed."

<sup>40</sup> Joseph P. Bermudez, Jr., "North Korea's Chemical and Biological Warfare Arsenal," *Jane's Intelligence Review*, May 1993, p. 223.

<sup>41</sup> Jason Glashow, "Manila Pursues U.S. Arms," *Defense News*, 1-7 April 1996, p.4

<sup>42</sup> Jose Almonte, "Accommodate this ambition," *Financial Times*, 24 April 1996, p.12.

<sup>43</sup> Chinese Foreign Ministry spokesman Shen Guofang quoted in "Beijing warns Tokyo about arms buildup," *International Herald Tribune*, 19 April 1996, p. 4.

<sup>44</sup> See Naoki Usui, "Chinese May Fuel Japanese TMD Push," *Defense News*, 11 -17 March 1996, p. 8; Paul Beaver, "Japan weighs up missile defense options," *Jane's Defense Weekly*, 13 August 1994, p. 21.

---

<sup>45</sup> Lee Sung-yul, "China-Taiwan Tension a Lesson to South Korea," *Korea Newsreview*, 23 March 1996, p. 6.

<sup>46</sup> General Lee Kwang-hak quoted in "AF Chief calls for 'strategic role'," *Korea Times*, 1 May 1996, as cited in *NAPSNet*, Nautilus Institute, 1 May 1996.

<sup>47</sup> Quoted in "Malaysian Sees No Danger," *International Herald Tribune*, 27 March 1996, p. 4.

<sup>48</sup> Quoted in Michael Richardson, "Neighbors Warn Beijing," *International Herald Tribune*, 5 March 1996, p. 6.

<sup>49</sup> See Michael Richardson, "Putting a 'Building Block' Of Asian Security in Place," *International Herald Tribune*, 18 December 1995, p.1; Nikki Tait, "Canberra and Jakarta to sign security pact," *Financial Times*, 15 December 1995, p. 6.