

# 1 Background

In May 1998, India and then Pakistan conducted a series of nuclear tests that took the world by surprise. Suddenly, the number of declared nuclear-weapon powers jumped from five to seven. International efforts to stop the spread of nuclear weapons, which had achieved gradual but substantial results since the end of the cold war, were clearly threatened. Indeed, the South Asian nuclear developments posed a severe challenge to the very concept of non-proliferation.

The crisis, however, does not necessarily portend further nuclear proliferation. Damage has been done to the non-proliferation regime, but it can—and should—be contained. As the nuclear situation in South Asia evolves, the international community must closely monitor the consequences of these nuclear blasts. China's response to the Indian and Pakistani explosions will have critical implications for the region. China is now at a crossroads: it has been actively involved in Pakistan's nuclear programs, but in recent years it has also joined most major nuclear control regimes. It is clearly in the interest of the international community to see China continue to follow and even to reinforce international nuclear non-proliferation norms.

This study examines China's reaction to the South Asian nuclear tests and suggests possible developments in its nuclear policy over the next five years. Many observers, both in China and in the United States, have suggested that China did not take India's nuclear tests seriously, arguing that since China's overall strength is so much greater than India's, China would not feel the need to take any measures to counter India's new nuclear-weapon capability.

In fact, assessing China's reaction to the South Asian nuclear tests is more complicated than this argumentation would suggest. Within

the Chinese arms-control community, there have long been important differences between civilian policy makers and military strategists. The recent nuclear tests appear to have sharpened these differences, as the country's leaders debate China's response to the new perceived nuclear threat.

This study examines three scenarios for Chinese nuclear policy over the next five years. The first, and most likely, scenario is that China will maintain its current nuclear doctrine, modernization plans, and declared policy of non-proliferation. The second scenario is that China will expand its nuclear-weapon modernization plans and will undertake a moderate nuclear buildup, partly to counter an expected nuclear-weapon deployment by India. The third scenario—and the least likely one at present—is that China will reverse its commitments to international nuclear regimes if it comes to believe that its security is threatened by strategic developments in neighboring states. Whatever China decides will have important implications for the international community in general and for the United States in particular.

## THE CURRENT STATE OF CHINESE NUCLEAR FORCES

Since exploding its first nuclear device in 1964, China has conducted forty-five nuclear tests. Its nuclear forces today include a triad of land-based missiles, bombers, and submarine-launched ballistic missiles, which collectively possess approximately 450 nuclear warheads. Land-based ballistic missiles remain the strongest element of today's Chinese nuclear arsenal (see Table 1).<sup>1</sup> China has about twenty DF-5 intercontinental ballistic missiles (ICBMs) with a striking range of 13,000 kilometers (8,100 miles).<sup>2</sup> It operates a single nuclear submarine (SSBN), the *Xia*, armed with 12 Julang-1 submarine-launched ballistic missiles (SLBMs) with a range of 1,700 kilometers (1,100 miles).

Within China's nuclear triad, its air force is the weakest element. The Chinese air force has more than 100 medium-range H-5 and H-6 bombers, some of which are nuclear-capable.<sup>3</sup> With a flying range of more than 3,000 kilometers (1,900 miles), the H-6 can reach all Asian countries, but its capability to penetrate air-defense systems is poor. The H-7, the first supersonic and only modern bomber in China, is being developed by the Xi'an Aircraft Company. This all-weather bomber will be capable of carrying out nuclear missions for the Chinese air force and navy.<sup>4</sup>

China's long-range and intermediate-range ballistic missiles (IRBMs) are perhaps more relevant to South Asia. In addition to the DF-5s, China has:

- at least 10 DF-4 land-based missiles with a striking range of 4,700 kilometers (3,000 miles)
- 38 DF-3 and DF-3A missiles with striking ranges of 2,650 and 2,800 kilometers (1,650 and 1,750 miles)
- 30 DF-21 and DF-21A missiles with striking ranges of 1,700 and 1,800 kilometers (1,080 and 1,120 miles), respectively.

China has exported short-range DF-11 (M-11) missiles to Pakistan. These have a striking range of 280 kilometers (175 miles) and are capable of carrying nuclear weapons.<sup>5</sup>

On the whole, the Chinese strategic nuclear force includes at least 20 ICBMs, 80 IRBMs, 120 nuclear-capable bombers, and 12 SLBMs.<sup>6</sup> This study will further elaborate the future of Chinese nuclear capabilities in Chapter 4.

In general, Chinese strategic nuclear forces and technologies have not made revolutionary advances but have evolved gradually since their establishment in the 1970s. The key area of improvement and growth has been the number and accuracy of medium- and short-range ballistic missiles. China now uses global-positioning satellite systems, for example, and provides warheads with terminal guidance packages to improve the accuracy of those missiles.<sup>7</sup> Although China did decide to sign the Comprehensive Test Ban Treaty (CTBT) in 1996, the 1998 nuclear tests in South Asia raise some concerns about whether it will continue to adhere to nuclear-weapon control regimes.

## **NUCLEAR DETERRENCE STRATEGY**

Until the early 1980s, Chinese military strategy had been to prepare to "fight early, fight an all-out war, and fight a nuclear war." In 1985 the Chinese military leadership made a strategic turn, shifting from an emphasis on a possible World War III to preparing the Chinese military for limited warfare. At the same time, People's Liberation Army (PLA) analysts started to pay more attention to deterrence as a means of defense.

**TABLE 1**  
**China's Ballistic Missile Bases**

Location	Brigades	Missiles	Targets
Shenyang, Liaoning Province	3	DF-3/DF-21	Northeast Asia
Huangshan, Anhui Province	2–3	DF-15	Taiwan
Kunming, Yunnan Province	2	DF-3/DF-21	Southeast Asia, India
Luoning, Henan Province	3	DF-4/DF-5	Russia, United States
Huaihua, Hunan Province	2	DF-4	Russia
Xining, Qinghai Province	3	DF-3/DF-4	Russia, India

Other possible sites:

Tonghua, Jilin; Xuanhua,  
Hebei; Yidu, Shandong;  
Wuzhai, Shanxi; Tongdao,  
Hunan; Jianshui, Yunnan;  
and various sites in Gansu.

**Sources:** "Nuclear Weapons and Sino-Indian Relations," *Southern Asia Policy Brief* (Washington, D.C.: Henry L. Stimson Center, June 15, 1998); Rodney W. Jones and Mark G. McDonough, *Tracking Nuclear Proliferation: A Guide in Maps and Charts, 1998* (Washington, D.C.: Carnegie Endowment for International Peace, 1998).

*National Defense Theory*, a PLA National Defense University book, is a unique and comprehensive elaboration of current nuclear thinking and a critical source for understanding China's deterrent strategy.<sup>8</sup> The military authors of this edited volume detail the history and current status of deterrence for China's national-security doctrine. They point out that while deterrence has played a prominent role in international strategic thinking since the end of World War II, its roots can actually be traced to military practices in ancient

Chinese times. Two thousand years ago, for example, Sun Zi advocated “overwhelming the enemy without fighting.” This PLA book is extremely useful for clarifying aspects of Chinese military strategy and nuclear doctrine that heretofore have not been well understood.<sup>9</sup>

The authors of *National Defense Theory* identify the key Chinese features of deterrence as protecting the national interests and dispelling threats to the country. While in their view Chinese deterrence is limited to self-defense, other nations, particularly the United States, use deterrence as part of an offensive military strategy and reserve the right to the first use of nuclear weapons in any conflict.

In the Chinese authors’ view, deterrence is a complex strategy, neither war nor peace, but something in between and existing on multiple levels. Deterrence can be divided into conventional deterrence, nuclear deterrence, outer-space deterrence, and so on. Conventional deterrence, in turn, can be both all-out, as in the use of conventional forces to deter a global war, or limited to a regional conflict. For an all-out or people’s war, China would mobilize its massive population and resources to thwart the escalation of a conflict into a full-scale war. Regional deterrence would be used to oppose “hegemonic aggression” and expansion in China’s neighboring areas. Limited nuclear deterrence would be used to oppose a possible nuclear war aimed at China. Such nuclear deterrence is viewed as a second-strike force that would retaliate against limited targets in the enemy country. Finally, China may develop a limited space-deterrence capability to compete in the military use of space with other powers.

As the above discussion shows, deterrence for these Chinese strategists can take both violent and nonviolent forms, involving the use of both conventional weapons or even tactical nuclear weapons to deter a larger conflict. Thus, “violent deterrence” would involve the preparation and use of force to deter the outbreak of war or to stop the escalation and expansion of a war already started. “Nonviolent deterrence” includes the use of diplomacy, economics, science and technology, trade, and military aid to head off military and political tensions that could lead to war.<sup>10</sup>

During interviews conducted by this author in October 1998 in Beijing, a number of nuclear scientists and senior diplomats confirmed that China remains committed to maintaining sufficient nuclear forces to provide “limited nuclear deterrence.” In other

words, China will retain sufficient forces to launch a retaliatory strike after an adversary's nuclear attack. Officially, however, the Chinese leadership rarely acknowledges the role of nuclear deterrence. A national-defense adviser interviewed for this study, for example, said frankly that he should not answer any questions about Chinese nuclear doctrine, indicating how sensitive the issue remains in China today.

China's limited-war strategy and doctrine of limited deterrence have been in place for about a decade, during which China has not built a large nuclear force, rather a force focused on powerful, high-precision weapons with a high rate of survivability. The key question now is whether that doctrine will change as a consequence of the South Asian nuclear tests.

### **CURRENT CHINESE NUCLEAR POLICY**

Chinese behavior toward nuclear-weapon control regimes has not been simple or straightforward. Several steps taken by the Chinese are generally regarded as positive developments. China joined the International Atomic Energy Agency (IAEA) in January 1984, signed the Nuclear Non-Proliferation Treaty (NPT) in March 1992, supported the indefinite extension of that treaty in May 1995, ceased nuclear testing and announced a unilateral moratorium on further testing in July 1996, signed the CTBT in September 1996, publicly announced a set of guidelines to govern nuclear-related exports in September 1997, officially joined the Zangger Committee (a coordinating body of nuclear-supplier nations that sets the standards for exporting nuclear fuel and equipment to non-nuclear-weapon states) in October 1997, and issued Regulations for Controlling the Export of Dual-Use Nuclear Goods and Relevant Technologies in June 1998.

But there have also been continuing concerns about Chinese practices, including the lack of an effective national export-control system to monitor transfers of nuclear, biological, chemical, missile, and dual-use exports; reports of Chinese noncompliance with its 1992 pledge to abide by the original 1987 Missile Technology Control Regime (MTCR) guidelines and its 1994 bilateral statement with the United States to accept the "inherent capability" concept<sup>11</sup> defining missiles associated with the MTCR; its refusal to adhere to the revised 1993 MTCR guidelines; and instances of nuclear-related exports and assistance to Pakistan.<sup>12</sup>

There is considerable evidence to support allegations of Chinese assistance to Pakistan's nuclear weapon program. In 1983, for example, U.S. intelligence reported that China had transferred a complete nuclear-weapon blueprint to Pakistan, along with weapons-grade uranium for two nuclear weapons. In 1986, China signed a nuclear-cooperation agreement with Pakistan, after which a number of Chinese scientists began assisting that country in the enrichment of weapons-grade uranium. China also provided Pakistan with nuclear products and technology, such as research and power reactors and information for uranium enrichment. In 1995, the China Nuclear Energy Industry Corporation exported about 5,000 ring magnets to a Pakistani nuclear laboratory that was not subject to IAEA inspections (and a suspected nuclear-weapons laboratory). In 1996, China reportedly sold to a Pakistani nuclear site a special industrial furnace and high-technology diagnostic equipment that could be used to construct nuclear bombs.<sup>13</sup>

As a nuclear power with worldwide influence, China has chosen to employ different policies toward nuclear-weapon and non-nuclear-weapon states. China regularly urges major nuclear powers such as the United States and Russia to abandon their nuclear-deterrence policies and to reduce substantially their nuclear-weapon stockpiles. China has also invited all nuclear-weapon states to commit themselves not to be the first to use such weapons at any time or under any circumstances. It has further called on all states that have deployed nuclear weapons outside their borders to retrieve them within national boundaries. China, Russia, and the United States have agreed not to target each other with strategic nuclear weapons.<sup>14</sup>

To non-nuclear states, China pledges unconditionally not to use or to threaten to use nuclear weapons. It supports efforts to establish nuclear-free zones, and has signed and approved the relevant protocols of a series of treaties for such measures in Latin America and the Caribbean, the South Pacific, and Africa. In 1995, China reiterated its commitment unconditionally to provide non-nuclear states and nuclear-weapon-free zones with negative security assurances, and for the first time promised to provide them with positive security assurances.<sup>15</sup>

As a general policy, China has advocated the complete prohibition and destruction of nuclear weapons and has opposed the development and deployment of outer-space weapons or missile-defense

systems. China also supports an early conclusion of the Convention on Banning the Production of Fissile Materials for Nuclear Weapons or Other Nuclear Explosive Devices (also known as the Fissile Material Cut-off Treaty, or FMCT). In October 1994, the foreign ministers of China and the United States issued a joint statement on a multilateral and effectively verifiable FMCT. In April 1997, China and the other four declared nuclear-weapon states reiterated their call for the conclusion of an FMCT as soon as possible. China endorses the IAEA's Program for Strengthening the Effectiveness and Promoting the Efficiency of the Safeguard System.<sup>16</sup>

Against the debatable Chinese record of non-proliferation, the key question for strategists is what kind of impact the South Asian nuclear tests will have on China's nuclear doctrine and what Chinese nuclear policy will look like in five years. By 2005, a new nuclear-security pattern will fully emerge in South Asia, and China will react to it accordingly.