
NUCLEAR SOUTH ASIA

A GUIDE TO INDIA, PAKISTAN, AND THE BOMB

**CHAPTER 2 GUIDE
NUCLEAR HISTORY**

CONTENTS

ABOUT NUCLEAR LEARNING	3
LEARNING OBJECTIVES	3
KEY TERMS	4
CONTENT OVERVIEW.....	6
BACKGROUND: “KEY EVENTS IN SOUTH ASIA’S NUCLEAR HISTORY”	6
2.1: “MODELS OF NUCLEAR PROLIFERATION AND MYTHMAKING”	6
2.2: “ATOMS FOR PEACE AND CIVILIAN NUCLEAR ENERGY”	6
2.3: “THE ROAD TO WEAPONIZATION”	7
2.4: “INDIA’S 1974 ‘PEACEFUL NUCLEAR EXPLOSION’”	7
2.5: “U.S. SANCTIONS AND SOUTH ASIA’S NUCLEARIZATION”	8
2.6: “THE NPT, THE CTBT, AND INDIA’S NEAR-TEST”	8
2.7: “INDIA AND PAKISTAN’S 1998 NUCLEAR TESTS”	8
2.8: “FOREIGN COOPERATION AND PROLIFERATION IN SOUTH ASIA”	9
2.9: “U.S. NONPROLIFERATION LEGISLATION”	10
2.10: “INDIA’S NUCLEAR AMBIVALENCE”	10
2.11: “PERSONAL REFLECTIONS ON THE 1998 NUCLEAR TESTS”	11
RECOMMENDED READINGS.....	12
DISCUSSION QUESTIONS.....	14

ABOUT NUCLEAR LEARNING

Nuclear Learning is an online initiative produced by the [Stimson Center's South Asia Program](#) to sharpen strategic analysts' understanding of nuclear programs, doctrines, and postures in South Asia and beyond. *Nuclear Learning* pursues this mission by making diverse viewpoints accessible via open online courses, nurturing vibrant communities of "nuclear learners" on social media, and providing opportunities for students to engage with experts in the field.

The first *Nuclear Learning* course—"Nuclear South Asia: A Guide to India, Pakistan, and the Bomb"—is available for free at www.nuclearlearning.org. "Nuclear South Asia" is the most comprehensive collection of perspectives on India and Pakistan's nuclear trajectories available online. It includes 8.5 hours of video content and features lectures from more than 80 leading scholars and practitioners, including former senior diplomats and military officers. In addition to lectures, the course includes quizzes, recommended readings, and a pass/fail final exam.

Upon completing "Nuclear South Asia," students will be able to:

- Understand the factors motivating India and Pakistan's nuclear programs, doctrines, and postures;
- Assess the impact of emerging policies and capabilities on deterrence stability;
- Describe India and Pakistan's positions vis-à-vis the Nuclear Non-Proliferation Treaty (NPT) and other elements of the global nuclear order;
- Analyze crisis episodes, management challenges, and confidence-building efforts on the Subcontinent; and
- Propose innovative solutions to reduce nuclear competition and dangers in South Asia.

Students have the option of earning a Stimson-issued certificate, an important credential for academic and professional advancement. To earn a certificate, students must watch the video lessons, complete the quizzes and surveys, and pass a final exam.

Due to high demand, a second *Nuclear Learning* course on conventional and nuclear deterrence in Southern Asia is under development for release in 2019.

LEARNING OBJECTIVES

In this chapter, students will learn about initial international efforts to prevent nuclear proliferation as well as the historical context behind India and Pakistan's pursuit of nuclear technology and, ultimately, weapons programs. Special attention is devoted to U.S. nonproliferation concerns (and related legislative efforts) as well as the international response to India and Pakistan's nuclear-weapons tests in 1998. Students are exposed to different perspectives on the topic and encouraged to think critically about why nonproliferation efforts failed and why the two South Asian powers developed nuclear weapons. From this chapter, students will also understand the broad strategic considerations affecting decisions made by India, Pakistan, and the United States.

KEY TERMS

Below is a list of definitions of the key terms from this chapter.

A.Q. Khan Network: A non-state proliferation network managed by Pakistani scientist Abdul Qadeer Khan that facilitated the illicit transfer of nuclear equipment, enrichment technology, and warhead designs to countries seeking to advance their nuclear programs, including Iran, North Korea, and Libya.¹

Atoms for Peace: A program initiated by U.S. President Dwight D. Eisenhower in 1953 that provided the requisite technology and educational resources to countries pursuing civilian nuclear energy.²

Civilian Nuclear Program: A nuclear program geared towards harnessing nuclear power for peaceful purposes, including supplying energy to civilian and commercial uses and conducting scientific research.

Comprehensive Nuclear Test-Ban Treaty (CTBT): An international treaty adopted by the UN General Assembly in 1996 that prohibits the testing of all nuclear explosives.³ As of 2017, 166 countries have ratified the treaty. While China and the United States have signed the treaty, they have not ratified it. India and Pakistan have neither signed nor ratified the treaty.

Glenn Amendment: U.S. legislation enacted in 1977 that empowers the U.S. president to impose broad sanctions on non-Nuclear Non-Proliferation Treaty nuclear powers for conducting nuclear tests.⁴ These sanctions were applied to India and Pakistan after their 1998 nuclear tests, but fully waived following the 9/11 attacks.⁵

International Atomic Energy Agency (IAEA): An international regulatory body established in 1957 as part of the United Nations family to promote the safe, secure, and peaceful use of nuclear technologies.⁶

Nuclear Non-Proliferation Treaty (NPT): An international treaty established in 1968 with the goals of preventing the spread of nuclear weapons and technology, advancing disarmament, and promoting peaceful uses of nuclear energy.⁷ As of 2017, all countries except India, Israel, North Korea, Pakistan, and South Sudan are party to the treaty.

¹ Christopher Clary, "The A.Q. Khan Network: Causes and Implications." Master's Thesis. Naval Postgraduate School, 2005. <https://fas.org/irp/eprint/clary.pdf>.

² Dwight Eisenhower, "Atoms for Peace Speech," Text, International Atomic Energy Agency, December 8, 1953, <https://www.iaea.org/about/history/atoms-for-peace-speech>.

³ "The Treaty - History: Summary," CTBTO Preparatory Commission, accessed May 7, 2018, <https://www.ctbto.org/the-treaty/history-summary/>.

⁴ Robert M. Hathaway, "Confrontation and Retreat: The U.S. Congress and the South Asian Nuclear Tests - Key Legislation," Arms Control Association, January 1, 2000, https://www.armscontrol.org/act/2000_01-02/rhchart.

⁵ Alex Wagner, "Bush Waives Nuclear-Related Sanctions on India, Pakistan," October 1, 2001, https://www.armscontrol.org/act/2001_10/sanctionsoct01.

⁶ "History," International Atomic Energy Agency, accessed May 7, 2018, <https://www.iaea.org/about/overview/history>.

⁷ "Treaty on the Non-Proliferation of Nuclear Weapons (NPT)," Nuclear Threat Initiative, April 15, 2018, <http://www.nti.org/learn/treaties-and-regimes/treaty-on-the-non-proliferation-of-nuclear-weapons/>.

Nuclear Proliferation: The spread of nuclear weapons, fissile material, and/or technology to countries besides the five recognized by the Nuclear Non-Proliferation Treaty as nuclear-weapon states, or the increase in an existing nuclear-weapon state's arsenal size or technological standard.⁸

Nuclear Suppliers Group (NSG): A "supply-side" regime of countries who pledge to set strict guidelines for nuclear-technology exports and nuclear-related exports to curb proliferation.⁹ The organization was founded in 1974 in response to India's first nuclear test, which it dubbed a "peaceful nuclear explosion."¹⁰

"Peaceful Nuclear Explosion" (PNE): The term used by the Indian government to describe its first nuclear test in 1974.¹¹ Despite international doubts, New Delhi insisted the test was for civilian, rather than military, purposes.

Pressler Amendment: U.S. legislation enacted in 1985 that threatened to heavily restrict aid to Pakistan unless the U.S. president annually certified that Pakistan neither had nor was developing a nuclear device.¹² This was used in 1990 to impose sanctions on Pakistan, representing a loss of about \$300 million per year in arms and other military supplies for the Pakistani state, but the sanctions were waived after 9/11.¹³

Solarz Amendment: U.S. legislation enacted in 1985 that cut off aid to non-Nuclear Non-Proliferation Treaty states for illegally exporting or attempting to export nuclear materials or technology from the United States.¹⁴

Symington Amendment: U.S. legislation enacted in 1976 that cut off most aid to countries determined to be trafficking nuclear-enrichment equipment or technology outside of international safeguards.¹⁵ These sanctions were applied to Pakistan in 1979, but lifted after 9/11.¹⁶

U.S.-India Civil Nuclear Agreement (Indo-U.S. Nuclear Deal): An agreement between the United States and India concluded in 2008 that established civil nuclear cooperation between the two countries.¹⁷ As part of the deal, the Nuclear Suppliers Group granted India a waiver, allowing it to engage in civilian nuclear trade with the United States and the group's other members. In return, India allowed more intrusive inspections of its civilian nuclear facilities and promised to continue its moratorium on testing and to work towards negotiating a Fissile Material Cut-Off Treaty.

⁸ "Treaty on the Non-Proliferation of Nuclear Weapons (NPT)."

⁹ "Nuclear Suppliers Group (NSG)," Nuclear Threat Initiative, February 1, 2018, <http://www.nti.org/learn/treaties-and-regimes/nuclear-suppliers-group-nsg/>.

¹⁰ "18 May 1974 - Smiling Buddha," CTBTO Preparatory Commission, accessed May 7, 2018, <https://www.ctbto.org/specials/testing-times/18-may-1974-smiling-buddah>.

¹¹ Ibid.

¹² Hathaway, "Confrontation and Retreat: The U.S. Congress and the South Asian Nuclear Tests - Key Legislation."

¹³ Dennis Kux, *The United States and Pakistan, 1947-2000: Disenchanted Allies* (Washington, DC: Woodrow Wilson Center Press, 2001). Also see: Wagner, "Bush Waives Nuclear-Related Sanctions on India, Pakistan."

¹⁴ Richard T. Cupitt, *Reluctant Champions: U.S. Presidential Policy and Strategic Export Controls, Truman, Eisenhower, Bush and Clinton* (New York: Routledge, 2002).

¹⁵ Hathaway, "Confrontation and Retreat: The U.S. Congress and the South Asian Nuclear Tests - Key Legislation."

¹⁶ Wagner, "Bush Waives Nuclear-Related Sanctions on India, Pakistan."

¹⁷ Jayshree Bajoria and Esther Pan, "The U.S.-India Nuclear Deal," Council on Foreign Relations, November 5, 2010, <https://www.cfr.org/backgrounders/us-india-nuclear-deal>.

CONTENT OVERVIEW

In this section, we provide an overview of all the lectures and supplemental materials in Chapter 2 of *Nuclear South Asia* on www.nuclearlearning.org.

BACKGROUND: “KEY EVENTS IN SOUTH ASIA’S NUCLEAR HISTORY”

This course webpage provides a chronology of events related to the initial elements of the global nuclear order, as well as India and Pakistan’s development of nuclear weapons.

1957 – Establishment of the International Atomic Energy Agency (IAEA)

1968 – Adoption of the Nuclear Non-Proliferation Treaty (NPT)

1974 – India’s “Peaceful Nuclear Explosion”

1974 – Establishment of the Nuclear Suppliers Group (NSG)

1996 – Adoption of the Comprehensive Nuclear Test-Ban Treaty (CTBT)

1998 – India and Pakistan’s Nuclear Tests

2004 – Discovery of the A.Q. Khan Network

2008 – Signing of the Indo-U.S. Nuclear Deal

2.1: “MODELS OF NUCLEAR PROLIFERATION AND MYTHMAKING”

Run Time: 2:00

Lecturers: Scott Sagan (Stanford University) and Sameer Lalwani (Stimson Center)

Key Points:

- According to Scott Sagan, there are three basic models used by political scientists to help explain decisions such as the development of nuclear weapons:
 - Security model – to address security threats;
 - Domestic politics model – to meet demands of parochial interest groups; and
 - Normative model – to boost international prestige.
- According to Sameer Lalwani, elites create myths about history and security environment to legitimize particular strategic goals, including the pursuit of nuclear weapons.

2.2: “ATOMS FOR PEACE AND CIVILIAN NUCLEAR ENERGY”

Run Time: 4:50

Lecturers: Amy Sands (Middlebury Institute), Jayita Sarkar (Belfer Center), and Feroz Khan (Naval Postgraduate School)

Key Points:

- According to Amy Sands, the “Atoms for Peace” program was misguided because it increased the symbolic prestige of nuclear programs.
- The acquisition of nuclear energy is often considered a symbol of modernity.
- In 1954, India signed an agreement with Canada to acquire the CIRUS nuclear reactor.
- According to Jayita Sarkar, Indian leaders tied the initial pursuit of nuclear energy to economic development, which made the program politically palatable.
- According to Feroz Khan, the “Atoms for Peace” program opened the window for Pakistani scientists to learn nuclear science and obtain nuclear technology, laying the groundwork for the country’s future weaponization.

2.3: “THE ROAD TO WEAPONIZATION”

Run Time: 8:15

Lecturers: Zia Mian (Princeton University), Raj Chengappa (India Today Group), Jayita Sarkar (Belfer Center), Feroz Khan (Naval Postgraduate School), and Rabia Akhtar (University of Lahore)

Key Points:

- According to Zia Mian, Pakistan’s road to weaponization began in the early 1950s when it signed a military alliance agreement with the United States.
 - American military advisors also brought the idea of nuclear weapons as the future of warfare to Pakistan.
- According to Raj Chengappa, the main trigger for India’s weaponization was China’s testing of a nuclear weapon in 1964.
 - Jayita Sarkar adds that the China-Pakistan partnership was a secondary factor, and although India did not feel its survival was threatened, security interests pushed it towards weaponization.
- According to Feroz Khan, the turning point in Pakistan’s nuclear history was the mid-1960s, when India started developing its nuclear weapons in response to China.
 - There was a “nuclear enthusiast” lobby as well as a “nuclear cautionist” lobby in Pakistan, with the military and financial bureaucracy falling into the latter category.
- The independence of Bangladesh in 1971 led to a sudden shortage of nuclear scientists and technicians for Pakistan.
- According to Rabia Akhtar, the secret Multan meeting in 1972 organized by Pakistan Prime Minister Zulfikar Ali Bhutto was when he committed the country to pursuing nuclear weapons.

2.4: “INDIA’S 1974 ‘PEACEFUL NUCLEAR EXPLOSION’”

Run Time: 6:00

Lecturers: Jayita Sarkar (Belfer Center), Vipin Narang (MIT), Scott Sagan (Stanford University), George Perkovich (Carnegie Endowment), Feroz Khan (Naval Postgraduate School), and Robert Einhorn (Brookings Institution)

Key Points:

- On May 18, 1974, India conducted a nuclear test that it called a “peaceful nuclear explosion.”
- According to Vipin Narang, although it was not a weapon test, it showed China and Pakistan that India’s scientists would quickly be able to develop weapons thereafter.
- According to Scott Sagan, India’s explosion of 1974 stemmed from a combination of domestic and bureaucratic interests, including Indian Prime Minister Indira Gandhi’s desire to appear tough and resist pressure from the scientific community.
 - George Perkovich states that the decision was made informally by Indira Gandhi and her advisors, partly to push back against the Soviet Union.
- According to Feroz Khan, India’s nuclear tests eliminated differences of opinion in Pakistan and created a broad national consensus that Pakistan should acquire nuclear weapons.
- According to Robert Einhorn, India’s test in 1974 was also a “wake-up call” for the international community that non-proliferation needed to be taken more seriously
 - This led to the creation of the Nuclear Suppliers Group (NSG) and stricter legislation in the United States to make suppliers’ conditions more stringent.

2.5: “U.S. SANCTIONS AND SOUTH ASIA’S NUCLEARIZATION”

Run Time: 4:03

Lecturers: Dave Smith (former U.S. Army attaché), Robin Raphel (former U.S. Assistant Secretary of State), Rabia Akhtar (University of Lahore), and Michael Krepon (Stimson Center)

Key Points:

- According to Dave Smith, the nuclear aspect of U.S.-Pakistan relations has always taken second place to more immediate crises in the region, such as terrorism.
 - Nuclear-related sanctions were waived to gain U.S. cooperation against the Soviet invasion of Afghanistan.
- The Pressler Amendment of 1985 was a Pakistan-specific law that required the president to annually certify that Pakistan did not have a nuclear weapon.
- According to Michael Krepon, Pakistan gave the United States assurances that it would not build nuclear weapons in the 1980s.
- According to Robin Raphel, once the United States invoked the Pressler Amendment, Pakistan took this move as a great betrayal. This led to a trust deficit between the United States and Pakistan.
 - She adds that Pakistan felt discriminated against, since the United States was also aware of India’s program, but had not similarly sanctioned India.

2.6: “THE NPT, THE CTBT, AND INDIA’S NEAR-TEST”

Run Time: 5:22

Lecturers: George Perkovich (Carnegie Endowment), Jayita Sarkar (Belfer Center), Michael Krepon (Stimson Center), and Feroz Khan (Naval Postgraduate School)

Key Points:

- According to George Perkovich, Indians who predicted imminent pressure from the international community to sign a comprehensive test-ban treaty wanted to test nuclear weapons in 1995 before such a treaty was established.
 - The United States discovered this and put pressure on India, so the latter avoided carrying out tests due to fear of international isolation and sanctions.
- According to Jayita Sarkar, India played a significant role in Comprehensive Nuclear Test-Ban Treaty (CTBT) negotiations, but did not sign it because of two reasons:
 - India believed that the treaty was not going to lead towards a complete and universal disarmament of the world.
 - India thought the CTBT was discriminatory as India still had not conducted its nuclear tests and was wary of Pakistan’s underground nuclear weapons.
- According to Michael Krepon, India was conflicted about the treaty and backed out when the entry-into-force provision was crafted.
- In the mid-1990s, Pakistan developed a policy that if India conducted a test, it would follow suit.

2.7: “INDIA AND PAKISTAN’S 1998 NUCLEAR TESTS”

Run Time: 8:47

Lecturers: Vipin Narang (MIT), Jayita Sarkar (Belfer Center), Lisa Curtis (Heritage Foundation), Mansoor Ahmed (Belfer Center), Feroz Khan (Naval Postgraduate School), Touqir Hussain (former Pakistani ambassador), Robert Einhorn (Brookings Institution), Rakesh Sood (former Indian ambassador), Rabia Akhtar (University of Lahore), and Sameer Lalwani (Stimson Center)

Key Points:

- On May 11 and 13 in 1998, India's BJP government conducted a series of plutonium nuclear tests in the desert of Rajasthan.
- According to Lisa Curtis, the United States wanted to coax Pakistan not to respond to India's nuclear tests, but realized that was not feasible because no response would be against Pakistan's fundamental security interests.
- Pakistan conducted five nuclear tests in western Balochistan on May 28, 1998. A sixth test was conducted on May 30.
- According to Feroz Khan, in the 17-day period between the two countries' tests, the majority of the Pakistani state's institutions felt compelled to respond.
 - According to Touqir Hussain, the Pakistani military was neutral about whether or not to test.
- The international community immediately sought to prevent a heated nuclear competition between India and Pakistan.
- The United States wanted to restrain India and Pakistan's nuclear-weapons program and long-range missile delivery capabilities.
 - According to Robert Einhorn, the U.S. agenda afterwards was not denuclearization, but restraint.
- Most U.S. sanctions on India were lifted by the time President Clinton visited India in March 2000.
- Pakistan was aware it would be heavily sanctioned by the Glenn-Symington Amendments if it conducted nuclear tests.
 - However, these sanctions were not effective because the United States soon offered two relief packages to Pakistan.
- According to Sameer Lalwani, there was not a broad base of international support for sanctions against both countries, so they were not very impactful.
 - India only felt a marginal effect; Pakistan was hit harder, but only temporarily.

2.8: "FOREIGN COOPERATION AND PROLIFERATION IN SOUTH ASIA"

Run Time: 4:33

Lecturers: Jayita Sarkar (Belfer Center) and Feroz Khan (Naval Postgraduate School)

Key Points:

- According to Jayita Sarkar, no national nuclear program is completely indigenous.
 - India received assistance from the United States, Canada, and France—and later some aid from Russia.
- India asked for transfers of nuclear technology, not finished products, to have a component of learning involved for itself, but the United States was not one of the countries that made such transfers.
- French assistance to India has included the training of Indian personnel on breeder technology.
- In Pakistan's case, China was a major contributor to the development of its nuclear weapons.
- According to Feroz Khan, Pakistan's nuclear program has been a case of defiance of Western technology that countries like France and Germany promised, but did not deliver.
 - This spurred innovation in Pakistan that might not have occurred otherwise.

2.9: “U.S. NONPROLIFERATION LEGISLATION”

Run Time: 3:38

Lecturer: Rabia Akhtar (University of Lahore)

Key Points:

- During the 1965 India-Pakistan War, both countries violated the terms of U.S. arms sales to them to not use the weapons against each other, leading to the imposition of sanctions.
- The United States passed its first nonproliferation amendment, the Symington Amendment, in 1976, cutting aid and imposing sanctions to countries illicitly purchasing uranium enrichment technology.
- The Glenn Amendment was passed in 1977 and updated the Symington Amendment by also cutting aid to countries conducting nuclear tests.
- The Pressler Amendment, a Pakistan-specific amendment, was passed in August 1985 and would cut off aid to Pakistan if it was found to be developing uranium enrichment technology.
- The U.S. Congress also passed the Solarz Amendment in 1985 when two Pakistanis were caught smuggling nuclear technology components from the United States.

2.10: “INDIA’S NUCLEAR AMBIVALENCE”

Run Time: 9:54

Lecturers: Rajesh Rajagopalan (Jawaharlal Nehru University), George Perkovich (Carnegie Endowment), Vipin Narang (MIT), and Michael Krepon (Stimson Center)

Key Points:

- According to Rajesh Rajagopalan, India was quite ambivalent about its nuclear ambitions even after China exploded its first nuclear bombs.
 - This ambivalence persisted during nonproliferation negotiations and when India conducted its first test in 1974.
 - Even today, India continues to champion nuclear disarmament causes despite being a nuclear-armed state.
- According to George Perkovich, Indian Prime Minister Indira Gandhi did not continue to test more devices after the 1974 explosion because she was facing serious domestic challenges and thought further testing would be a distraction.
 - There was also a moral ambivalence of India becoming a nuclear power, since it had insisted that its nuclear program was peaceful.
- According to Vipin Narang, the Congress Party was more ambivalent than the BJP about openly declaring India to be a nuclear power.
- According to Michael Krepon, Pakistan’s nuclear-weapons program is currently more developed than India’s because India remains very ambivalent about nuclear weapons, while Pakistan’s leaders are extremely clear and purposeful.
 - This paradox makes deterrence stability difficult because a smaller state that is very serious about its nuclear weapons is outcompeting a larger state that is ambivalent about such weapons.

2.11: “PERSONAL REFLECTIONS ON THE 1998 NUCLEAR TESTS”

Run Time: 3:31

Lecturers: Abhijit Iyer-Mitra (Institute for Peace and Conflict Studies), Salma Malik (Quaid-i-Azam University), Jaiya Sarkar (Belfer Center), Zahid Imroz (George Washington University)

Key Points:

- Abhijit Iyer-Mitra was first euphoric when hearing of India’s tests, but then fearful of international sanctions and of military action or nuclear testing by Pakistan.
- Salma Malik notes that India’s 1998 tests were a shock, and the immediate question was about how Pakistan would respond.
- Jayita Sarkar recalls a significant nationalist surge after India’s tests with an “us vs. them” mentality.
- Zahid Imroz remembers a new wave of nationalism in Pakistan after its nuclear tests and the exaltation of missiles as a symbol of the country’s power.

RECOMMENDED READINGS

For greater depth, we encourage students to peruse these recommended readings:

Samina Ahmed, "Pakistan's Nuclear Weapons Program: Turning Points and Nuclear Choices," *International Security* 23, no. 4 (1999): 178-204.
<http://www.jstor.org/stable/2539298>.

Raj Chengappa, *Weapons of Peace: The Secret Story of India's Quest to Be a Nuclear Power* (New Delhi: HarperCollins, 2000). <https://books.google.com/books?id=2LHbAAAAMAAJ>.

Christopher O. Clary, "The A.Q. Khan Network: Causes and Implications." Master's Thesis. Naval Postgraduate School, 2005. <http://fas.org/irp/eprint/clary.pdf>.

Christopher O. Clary, "A.Q. Khan and the Limits of the Nonproliferation Regime," The 2005 NPT Review Conference, Disarmament Forum, New York City, April-May 2005 (Monterey: Naval Postgraduate School, 2004): 33-42.
http://calhoun.nps.edu/bitstream/handle/10945/40342/Clary_AQ_Khan_2005.pdf.

Steve Coll, "The Force of Fear in South Asia," *The Washington Post*, May 31, 1998.
<https://www.washingtonpost.com/archive/opinions/1998/05/31/the-force-of-fear-in-south-asia/951f3a60-b0ee-4344-a9ca-be2d80a306f1/>.

Runa Das, "State, Identity and Representations of Nuclear (In)Securities in India and Pakistan," *Journal of Asian and African Studies* 45, no. 2 (2010): 146-169.
<http://journals.sagepub.com/doi/abs/10.1177/0021909609357778?journalCode=jasa>.

Sumit Ganguly, "India's Pathway to Pokhran II: The Prospects and Sources of New Delhi's Nuclear Weapons Program," *International Security* 23, no. 4 (1999): 148-177.
<https://www.jstor.org/stable/2539297>.

Pervez Hoodbhoy and Zia Mian, "Nuclear Fears, Hopes and Realities in Pakistan," *International Affairs* 90, no. 5 (2014): 1125-1142. <http://www.princeton.edu/sgs/faculty-staff/zia-mian/Nuclear-Fears.pdf>.

Shashank Joshi, "Pakistan's Tactical Nuclear Nightmare: Deja Vu?" *The Washington Quarterly* 36, no. 3 (2013): 159-172. https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/TWQ_13Summer_Joshi.pdf.

Gaurav Kampani, "From Existential to Minimum Deterrence: Explaining India's Decision to Test," *The Nonproliferation Review* 6, no. 1 (1998): 12-24. <http://www.nonproliferation.org/wp-content/uploads/npr/kampan61.pdf>.

Gaurav Kampani, "New Delhi's Long Nuclear Journey: How Secrecy and Institutional Roadblocks Delayed India's Weaponization," *International Security* 38, no. 4 (2014): 79-114.
<http://www.belfercenter.org/publication/new-delhis-long-nuclear-journey-how-secrecy-and-institutional-roadblocks-delayed-indias>.

- Gaurav Kampani, "Stakeholders in the Indian Strategic Missile Program," *The Nonproliferation Review* 10, no. 3 (2003): 48-70. <http://www.nonproliferation.org/wp-content/uploads/npr/103kamp.pdf>.
- S. Paul Kapur, "Ten Years of Instability in a Nuclear South Asia," *International Security* 33, no. 2 (2008): 71-94. <https://casi.sas.upenn.edu/sites/casi.sas.upenn.edu/files/iit/Ten%20Years%20-%202008.pdf>.
- Feroz Hassan Khan, *Eating Grass: The Making of the Pakistani Bomb* (Palo Alto: Stanford University Press, 2012). <https://books.google.com/books?id=yGgrNAsKzJEC>.
- Feroz Hassan Khan, "The Independence-Dependence Paradox: Stability Dilemmas in South Asia," *Arms Control Today*, October 1, 2003. https://www.armscontrol.org/act/2003_10/Khan_10.
- Michael Krepon, "Looking Back: The 1998 Indian and Pakistani Nuclear Tests," *Arms Control Today*, June 11, 2008. https://www.armscontrol.org/act/2008_05/lookingback.
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- George Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation* (Berkeley: University of California, 1999). <https://books.google.com/books?id=UDA9dUryS8EC>.
- Scott Sagan, "Why Do States Build Nuclear Weapons?: Three Models in Search of a Bomb," *International Security* 21, no. 3 (1996-97): 54-86. https://fsi.stanford.edu/sites/default/files/Why_Do_States_Build_Nuclear_Weapons.pdf.
- Naeem Salik, *The Genesis of South Asian Nuclear Deterrence* (New York: Routledge, 2009). <https://books.google.com/books?id=NewOOgAACAAJ>.
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- Jaswant Singh, "Against Nuclear Apartheid," *Foreign Affairs*, September/October 1998. <https://www.foreignaffairs.com/articles/asia/1998-09-01/against-nuclear-apartheid>.
- Strobe Talbott, *Engaging India: Diplomacy, Democracy, and the Bomb* (Washington, DC: Brookings Institution, 2010). <https://books.google.com/books?id=gnPQDAAAQBAJ>.

DISCUSSION QUESTIONS

Below is a sample list of discussion questions to get students thinking and talking about the issues from this chapter in class.

1. What were the major factors driving India and Pakistan's ambitions to develop a nuclear-weapons program?
2. Why did the United States and international community seek to prevent nuclear proliferation to India and Pakistan?
3. Was the "Atoms for Peace" program inevitably going to lead to recipient countries developing nuclear weapons, or was there a reasonable likelihood that they would be satisfied with civil nuclear programs?
4. What role did other countries – including the United States and China – play in Pakistan's development of nuclear weapons?
5. Is the term "peaceful nuclear explosion" a misnomer? Why or why not?
6. Why did U.S. legislation like the Pressler Amendment fail to prevent Pakistan from developing nuclear weapons?
7. Why do experts consider India to be somewhat ambivalent about its nuclear weapons?