

Imbricated Regional Rivalries and Global Order:

South Asia, China and the United States

Zia Mian and M.V. Ramana

7 July 2010

Introduction

The Pakistan-India relationship, marked by four wars in sixty years, repeated military crises, costly arms racing, and political hostility, has contributed to the unmet development needs of a large portion of their respective populations and has been a source of great concern for the international community. It is now a truism that Pakistan defines itself largely through its relationship with India. Pakistan's elite, dominated by the army, see Pakistan's security, and indeed its national identity, as being threatened by India, most notably through the conflict over Kashmir. India, on the other hand, sees itself as a regional leader and as an emerging global power. Increasingly, over the past two decades, the India-Pakistan relationship is seen as having expanded to include China. India has a longstanding relationship with China that is marked by both cooperation and competition, while China has become Pakistan's close military, political and economic ally.

This triangular Pakistan-India-China relationship, while important, is not however the only driver of strategic affairs in these three countries or of the relationships between them. Each of these countries is deeply imbricated in a set of relationships with the United States, which are so densely intertwined that in fact the United States can be seen as crucial to the political goals and security policies of each of the three Asian states. It is the dynamics of this four-way interaction, with its many overlapping contradictions, that will shape the future stability of South Asia, Asia more generally, and the emerging global order.

Pakistan and India

Pakistan and India emerged as modern states from the partition of British India along religious lines in 1947. One legacy of this experience has been a determination among Pakistani policy makers that their country be seen as India's equal. After independence, Pakistan has engaged in fearful competition with India. They have fought wars in 1948, 1965, 1971, and 1998. Since their nuclear tests, this struggle has taken place under the nuclear shadow.¹ Pakistan's nuclear weapons were presented first as a counter to India's nuclear weapons, but have since become seen also as an "equalizer" against India's conventional military superiority.²

Indian leaders have a more complicated perception of Pakistan. On the one hand, they cannot but maintain that Pakistan is a military, and increasingly these days, a terrorist threat. With the nuclear tests, it was also clearly a nuclear threat.

However, acknowledging this would mean that by conducting nuclear tests, Indian decision makers lost the decisive military advantage they possessed because Pakistani nuclear weapons can now deter India. This was not an idea that Indian policy makers like to embrace, since they see themselves as being in a different league from Pakistan.

This builds on earlier inclinations. A section of the Indian nuclear policy-making community has traditionally belittled Pakistan's nuclear capability.³ In the past, for example, leading scientists have declared that Pakistan could not have enriched uranium to the levels required to make a bomb. The nuclear tests by Pakistan ended such speculation. However, the idea reappeared in a different guise during the 2002 crisis. K. Subrahmanyam, an influential Indian strategist, suggested that, in the aftermath of 11 September, and with the increased US presence in Pakistan, if Pakistan were to deploy any nuclear missiles the USA would destroy them.⁴ Pakistan would not therefore be able to use its nuclear weapons—a comforting, but most likely a fallacious, idea.

Indian military planners have also struggled to come to terms with a nuclear armed Pakistan in other ways. An important landmark was the Kargil war. For Indian military planners, Kargil meant that they would have to find ways of waging limited war that would not lead to the eventual use of nuclear weapons. The experience of the 2001-2002 crisis following the attack on the Indian parliament also led them to conclude that any limited war would have to be prosecuted very expeditiously without allowing time for diplomatic intervention by other powers, especially the United States.

In 2004 the Indian army adopted a new and dangerous war doctrine called “Cold Start, which aims to give India the ability to “shift from defensive to offensive operations at the very outset of a conflict, relying on the element of surprise and not giving Pakistan any time to bring diplomatic leverages into play vis-a-vis India”.⁵ The offensive operations would involve a very quick, decisive attack across the border with Pakistan and, some analysts argue, to “bring about a favourable war termination, a favorite scenario being to cut Pakistan into two at its midriff”.⁶ The strike is meant to be so swift and decisive that it would “preempt a nuclear retaliation”.⁷

In response to the Indian army chief's remarks, the Pakistani Chief of Army Staff General Parvez Kayani said “Proponents of conventional application of military forces, in a nuclear overhang, are chartering an adventurous and dangerous path, the consequences of which could be both unintended and uncontrollable.” In other words, Pakistan was threatening to use nuclear weapons if India tried to carry out the kind of conventional attack it has been rehearsing.

Pakistan's efforts are aimed at parity with India and at holding India back to where Pakistan can keep up. At the United Nations, for example, Pakistan said that “India should accept our proposal for promoting a regional strategic restraint regime and working with Pakistan to promote strategic stability in South Asia”.⁸

The search for formal equality of status also underpins Pakistan's demands that it should be extended the same exemptions from current international nuclear trade rules that were granted to India in 2008.⁹ These rules, agreed to by the 46 nation Nuclear Suppliers Group, permit the sale of nuclear fuel and technology only to countries that have signed the nuclear Non-Proliferation Treaty (NPT), and allow inspections by the International Atomic Energy Agency (IAEA) at all nuclear facilities. These rules do not apply to transfers to the NPT nuclear weapon states. This system was set up after India used its CIRUS reactor, supplied for peaceful purposes, to make plutonium for its first nuclear weapon test, in 1974. Israel, India Pakistan and North Korea are outside the NPT and not supposed to have access to the international nuclear market.

The United States, for strategic and economic reasons, beginning in 2004, agreed to lift its embargo on nuclear sales to India. As part of this US-India nuclear deal, the United States also persuaded the NSG to relax its rules for India. Since then, India has signed deals for new power reactors with Russia, France and the United States. Pakistan has sought to have the NSG permit it to buy two additional power reactors from China, so far without success.¹⁰ The existing foreign power reactors in India (supplied by Canada, the United States and Russia) and in Pakistan (supplied by Canada and China) were acquired either before the NSG was set up or were supplied by the respective countries before they joined the NSG.

Pakistan has limited capacity to maintain its nuclear and conventional arms race with India, to say nothing of keeping up in the larger economic and political rivalry. India's economy has been growing at a significantly higher rate than Pakistan's for most of the past decade. Pakistan also is struggling with an Islamist insurgency that verges on civil war and has claimed many thousands of lives and forced some 1.5 million people from their homes. Pakistan has limited scientific manpower and financial resources that can be applied to military programs.¹¹ It has set military spending in 2010-11 at almost \$8 billion, over 20% of its total budget.¹² Pakistan's major weapon systems are primarily imported, often funded by grants and military aid from the United States and increasingly from China. These issues are discussed below.

India and China

The relationship between China and India is an awkward combination of competition and co-evolution. China became an independent republic in 1949, two years after India gained freedom from British rule, and initially the two countries had very friendly ties – characterized by the famous slogan “Hindi-Chini bhai-bhai,” (Indians and Chinese are brothers). This period ended abruptly with the 1962 China-India war, in which India was decisively defeated, losing territory that it claimed as rightfully Indian. The sense of humiliation and the loss of territory has rankled nationalist parties in India, who have argued that India needed to become a stronger military power if it was to defend its national interests, and reclaim its territory. China's nuclear test in 1964 fueled demands for India to launch a weapons program of its own. Seeking to be treated as an

equal to China, India has also sought a UN Security Council seat, to no avail so far.

To address the friction caused by the border dispute, in 1993 India and China concluded an “Agreement on the Maintenance of Peace and Tranquility along the Line of Actual Control in the India-China Border Areas.” This was followed in 1996 by agreement on military confidence building measures, which included reductions in the numbers of troops, tanks and combat vehicles, heavy artillery and missiles deployed by both states along the border.

The dramatic growth in the Indian and Chinese economies over the past two decades has introduced a new dimension to the cooperation and competition. While Chinese-Indian trade has soared and is likely to reach \$60 billion in 2010, there is, however, also increasing concern in each country about where to get the raw materials and fuels to power their growth. Both envision growing competition for increasingly scarce resources.¹³ Strategists and military planners, in turn, interpret this as a sign of an emerging great power competition, which will need to be backed by military power.

Typical of this strain of thinking in India was the August 10, 2009 speech of the outgoing chief of the Indian Navy:

“coping with China will certainly be one of our primary challenges in the years ahead. China is in the process of ‘consolidating’ its comprehensive national power and creating formidable military capabilities. Once that is done, China is likely to be more assertive on its claims, especially in its immediate neighborhood. Our ‘trust deficit’ with China can never be liquidated unless our boundary problems are resolved. China’s known propensity for ‘intervention in space’ and ‘cyber-warfare’ would also be major planning considerations in our strategic and operational thinking... On the military front, our strategy to deal with China must include reducing the military gap and countering the growing Chinese footprint in the Indian Ocean Region. The traditional or ‘attritionist’ approach of matching ‘Division for Division’ must give way to harnessing modern technology for developing high situational awareness and creating a reliable stand-off deterrent.”¹⁴

Similarly, in December 2009, General Deepak Kapoor, India’s army chief and chairman of its chiefs of staff, revealed that the military has been working on a new doctrine and seeks major new capabilities.¹⁵ India’s armed forces are to be able to mobilize and deploy for war very quickly, and to be able to fight a two-front war (against Pakistan and China). India also wants to be able to project military power from the Persian Gulf to the Malacca Strait (which connects the Indian Ocean to the Pacific). This doctrine builds on the cold start doctrine described below.

Chinese officials, for their part, have repeatedly maintained that China poses no threat to other countries. For example, in 1982, Chinese leader Deng Xiaoping

declared, “There does not exist a threat to India from China, nor one to China from India”; and “We [the] Chinese people hope ourselves to be economically developed and hope India to be the same as well” .¹⁶ In the nuclear arena, China has repeatedly reiterated that it has a no-first use policy, and has argued that this should put Indian fears to rest.

China’s assurances do not seem to suffice for Indian policy makers. One area of concern has been the help offered by China to Pakistan in developing its missile, nuclear weapons and nuclear energy capacities. This was particularly clear in the letter that Indian Prime Minister Atal Bihari Vajpayee wrote to President Clinton justifying India’s May 1998 nuclear tests, citing the “overt nuclear weapon state on our borders, a state which committed armed aggression against India” and claiming that “an atmosphere of distrust persists,” and that “to add to the distrust that country has materially helped another neighbour of ours to become a covert nuclear weapons state.”¹⁷ Most recently, Indian officials have expressed their concern over China’s proposed sale of two nuclear power reactors to Pakistan, to add to the two reactors it has already provided.¹⁸

China began to supply weapons to Pakistan in the 1965 India-Pakistan war, i.e. soon after the China-India war, when Pakistan was subject to an arms embargo by its major supplier, the United States. China expanded this to relationship in the early 1970s to provide assistance to Pakistan’s nuclear weapons and missile programs. Several reasons underlie China’s interest in military and nuclear cooperation with Pakistan. Among these are China’s search for allies once its special relationship with the Soviet Union ended in the early 1960s, its confrontation with India, and “as a riposte to Washington’s support of Taiwan”.¹⁹ The role of the United States in motivating such actions has become even more central with the new US-Indian strategic relationship, and is manifest most clearly in the US-India nuclear deal.

The US, China and South Asia

The United States has been part of the larger context of the Pakistan-India-China relationship for sixty years. The United States has sought fitfully to have India become a part of American political, strategic and economic plans for Asia since India won independence from England. The US goal was to have India join the US side in the cold war against the Soviet Union and, in time China. The CIA and the State Department argued that India was the only potential regional power that could “compete with Communist China for establishing itself as the dominant influence in south-eastern Asia.”²⁰ Indian leaders did not embrace this vision.

Pakistan, on the other hand, was happy to accept a role in US plans for south Asia. It built an enduring relationship with the United States, starting in 1954. The United States provided economic and military aid, and Pakistan provided military bases, prepared to be the frontline in a possible war with the Soviet Union, and supported America in international fora.

The United States tried again with India during the early 1960s, under President Kennedy. Even before becoming president, he had argued that the United States and its western allies put together a package of aid and support “designed to enable India to overtake the challenge of Communist China”. As president, he sought to put together such a package. But US efforts to enlist India in support of US policies and in particular, the effort to counter China were frustrated. When Kennedy and Nehru met in 1961, they apparently clashed over Vietnam and nuclear disarmament among other things, and it is suggested that “particularly frustrating to US officials was Nehru’s refusal to accept the mantle of leadership in south-east Asia”.

Recently declassified reports from May 1963 reveal that President Kennedy and his aides considered whether and how the US might support India in case there was another China-India war.²¹ The defence secretary Robert McNamara argued that “Before any substantial commitment to defend India against China is given, we should recognize that in order to carry out that commitment against any substantial Chinese attack, we would have to use nuclear weapons”. The chairman of the Joint Chiefs of Staff, General Maxwell Taylor, worried about the long-term and “the overall problem of how to cope with Red China politically and militarily in the next decade”. Kennedy took the position that “We should defend India, and therefore we will defend India”.

Nuclear weapons figured large in other ways. In 1964, amid American concerns about China’s first nuclear weapons test, George Perkovich has documented how senior officials in the state department and the Pentagon went so far as to consider offering “the possibilities of providing nuclear weapons under US custody” to India.²² Perkovich reveals that the plan envisaged helping India modify aircraft to drop nuclear weapons, training crews, providing dummy weapons for practice runs and information on the effects of nuclear weapons for use in deciding targets. At the same time, the US atomic energy commission was considering helping India with “peaceful nuclear explosions”, which would involve the use of US nuclear devices under US control being exploded in India.

It was not just the Americans who thought this way. Homi Bhabha, the founder and head of the department of atomic energy, in 1965 urged the US to give India a nuclear device or just the blueprints for one to help it catch up with China’s nuclear development. But his plans came to naught.

Increasingly bogged down in Vietnam and worried that its future wars in the third world would be even more difficult if nuclear weapons continued to spread, the US decided that it preferred instead to stem the spread of nuclear weapons. It joined with the Soviet Union, which had similar worries, in crafting a nuclear non-proliferation treaty. The treaty was negotiated in 1968 and came into force in 1970. At the same time, the US began to improve its relations with China. India’s 1974 nuclear test further eroded hopes of a US-India nuclear relationship as a new regime of non-proliferation restrictions took shape.

New Alliances in the Post-Cold War Era

As the cold war ended, the US determined that no other power would be allowed to emerge as a potential rival. The now infamous 1992 draft Defense Planning Guidance prepared by Paul Wolfowitz, the under-secretary of defense for policy, for defense secretary Dick Cheney that was leaked to the press declared “Our first objective is to prevent the re-emergence of a new rival. This is a dominant consideration underlying the new regional defense strategy and requires that we endeavor to prevent any hostile power from dominating a region whose resources would, under consolidated control, be sufficient to generate global power.” In particular, it noted “we must maintain the mechanisms for deterring potential competitors from even aspiring to a larger regional or global role”.²³ In other words, the geopolitical order must be stabilized and the United States maintain its relative superiority not just globally, but even in the different regions of the world.

China again became the focus of attention as it increasingly became a major economic and political force in international affairs. This time story was to be different. India had new leaders. Prime Minister Vajpayee and the Hindu right wing Bharatiya Janata Party have long believed that Nehru was mistaken to pursue non-alignment in the cold war and have argued that India should have made common cause with the US against communism and against China.

In the wake of the May 1998 nuclear tests, a US sponsored Security Council resolution unanimously called on India and Pakistan to “immediately stop their nuclear weapon development programs, to refrain from the deployment of nuclear weapons, to cease development of ballistic missiles capable of delivering nuclear weapons, and any further production of fissile material for nuclear weapons.” The Clinton and Bush Administrations largely ignored it once it was passed.

The new direction in US-India relations became clear in March 2000, when President Clinton visited India. The joint statement that he issued with Prime Minister Vajpayee declared “In the new century, India and the United States will be partners in peace, with a common interest in and complementary responsibility for ensuring regional and international security. We will engage in regular consultations on, and work together for, strategic stability in Asia and beyond.” The shared goal of “strategic stability in Asia” can be read as India finally accepting US ideas about what should be the relative balance of power in Asia, and in particular, US concerns that a rising China could in time constrain the exercise of US power.

The ‘new direction’ identified in Clinton’s March 2000 visit was taken up concretely in the ‘Next Steps in Strategic Partnership’ agreement of January 2004. This announced that the United States and India would ‘expand cooperation’ in civilian nuclear activities, civilian space programs, and high-technology trade, as well as on missile defense. It is worth pointing out the

obvious, namely, that cooperation in this context is a euphemism for the US providing India access to aid, information and technology in these areas.

The US officials have made clear the purpose of this agreement. A senior official announced that “Its goal is to help India become a major world power in the 21st century....We understand fully the implications, including military implications, of that statement”.²⁴ The deputy state department spokesman explained further that the US was ready to ‘help India’ with command and control, early warning and missile defence, and noted that “Some of these items may not be as glamorous as combat aircraft, but I think for those of you who follow defense issues you’ll appreciate the significance”.

Former senior US officials and countless strategic commentators have pointed out the inference that is to be drawn from the new US effort to ‘help India’. Robert Blackwill, who served in the Bush administration as US ambassador to India and then as a deputy national security adviser for strategic planning, has wondered, for instance, “Why should the US want to check India’s missile capability in ways that could lead to China’s permanent nuclear dominance over democratic India?” His adviser, Ashley Tellis, drew a direct analogy to the critical role of US support for the nuclear programs of Britain and France during the Cold War and argued that “If the United States is serious about advancing its geopolitical objectives in Asia, it would almost by definition help New Delhi develop strategic capabilities such that India's nuclear weaponry and associated delivery systems could deter against the growing and utterly more capable nuclear forces Beijing is likely to possess by 2025.”²⁵

Tellis outlined in particular a path forward for US-Indian cooperation on India’s nuclear weapons program:

“In a previous generation, the United States assisted the British and French nuclear weapon programs in critical ways so as to deny the Soviet Union permanent strategic immunity vis-à-vis these two smaller states. U.S. aid to the French nuclear weapon program is particularly pertinent: first, because it occurred despite President Charles de Gaulle’s withdrawal of France from the unified military command of the North Atlantic Treaty Organization (NATO); and second, because of the form it took, namely, the quiet but effective practice of “negative guidance,” through which U.S. weapon scientists were able to tell their French counterparts when and how they were in error, even if the Americans could not always provide the French with the information to remedy those mistakes...there is good reason to believe that the latter may come to resemble the former at some point because of the anticipated growth of Chinese power. If this turns out to be the case, the only strong argument against U.S.-Indian cooperation in strategic weaponry will be not that it is undesirable, but that it is premature.”²⁶

Such efforts will only make China more concerned and drive its leaders to build up its capabilities further.

The Arms Race in Asia

One aspect of the arms race between Pakistan, India, and China involves making material for new nuclear weapons: Highly Enriched Uranium (HEU) and Weapon Grade Plutonium (WGPu). Among these countries, China is believed to be the only one that has stopped manufacturing fissile materials. Both India and Pakistan are believed to be making as much as they can within their technical limits and resource limits and expanding production capacity.

China is estimated to have as little as 1.7–2.8 tons and as much as 4 tons of WGPu, and 20 tons of HEU.²⁷ The larger estimates would permit China to produce about 800 plutonium-based and HEU based weapons (assuming it takes 5 kg of WgPu and 25 Kg of HEU per weapon, including losses). The public estimates of the size of the Chinese nuclear arsenal are less than 200 warheads.²⁸

According to public reports, China's production of fissile material for weapons stopped in the early 1990s.²⁹ Since this was around the time that the Chinese economy was beginning to take off, Li Bin, a prominent Chinese nuclear analyst, has suggested that this must be interpreted as a political decision rather than a decision taken on account of economic constraints; this, in turn, has been taken to mean that that "China's leaders felt that the Chinese did not need more than a relatively small nuclear force at the time" and "there is no evidence that China's emphasis on nuclear weapons has increased since."³⁰

While not increasing the size of its arsenal, China is engaged in a program of modernizing it – as are the other nuclear weapon states. In an effort to reduce the apparent vulnerability of its nuclear forces, China is moving from liquid fueled land-based mobile missiles such as the DF-3A to the solid fueled DF-31A missiles, increasing its reliance on ballistic missiles submarines by building additional submarines, and has started to deploy nuclear-capable cruise missiles.³¹

As part of its 2010 Nuclear Posture Review, the Obama Administration noted that "China's nuclear arsenal remains much smaller than the arsenals of Russia and the United States" but observed that "the United States and China's Asian neighbors remain concerned about China's current military modernization efforts, including its qualitative and quantitative modernization of its nuclear arsenal."³² The Posture Review committed the United States to developing conventionally-armed long-range ballistic missile systems for Prompt Global Strike, and missile defenses, even though it recognized that China and Russia are "claiming U.S. missile defense and conventionally-armed missile programs are destabilizing"³³

The United States is engaged in its own large scale modernization program. The Obama Administration has announced plans for spending "well over \$100 billion" over the coming decade on modernizing its nuclear weapons delivery systems, including new missiles, new submarines and new bombers and another

\$80 billion on modernizing the nuclear weapons research development and production complex.³⁴

India's nuclear weapons are based on WGPu, which is believed to come primarily from two production reactors: the 40 megawatt thermal (MWt) CIRUS and the 100 MWt Dhruva. Together, these reactors could have produced about 0.55 to 0.7 tons of weapon grade plutonium, sufficient for about 110 to 140 nuclear weapons of the kind used on Nagasaki in 1945.

India also has a rapidly expanding uranium enrichment program that is used to produce fuel for nuclear submarines. In 2008, the Director of the Bhabha Atomic Research Centre stated "Great strides have been made in development of advanced gas centrifuges for uranium enrichment program. The latest fourth generation design, with output 10 times the early design, has been successfully developed and an experimental cascade is in operation at BARC. These would soon be ready for induction at RMP. Third generation design, with 5 times output of early designs, are presently being inducted at RMP."³⁵

There could be additional sources of WGPu because Indian policy makers have always sought to maintain the capacity to use the civilian nuclear power program for weapons purposes if they felt it was required. This became apparent during the negotiations on the US-India nuclear deal, when Indian policy makers insisted on not allowing safeguards on the accumulated spent nuclear fuel and reactor grade plutonium separated so far, as well on several power reactors, including India's first fast breeder reactor under construction.³⁶ The fast breeder reactor, for example, would be fueled with reactor-grade plutonium and could produce up to about 140 kg of WGPu each year.³⁷ India would not be the first country to use a breeder reactor for military purposes: France used its Phénix breeder reactor to produce plutonium for weapons.³⁸

India has also an estimated 6.8 tons of reactor grade plutonium, as of 2009, not all of which has been separated yet from spent nuclear power reactor fuel.³⁹ This reactor grade plutonium has a different mix of the plutonium isotopes from the plutonium produced specifically for weapons. However, reactor grade plutonium can be used to make a nuclear explosive.⁴⁰ An estimated 8 kg of such plutonium is needed to make a simple nuclear weapon. If this accumulated spent fuel and the plutonium extracted from it are not put under IAEA safeguards, India would have enough plutonium from this source alone for an arsenal of over 850 weapons.

Pakistan's policy makers see India's unsafeguarded reactor grade plutonium as contributing to a much larger Indian fissile material stockpile. Pakistan's National Command Authority, which has responsibility for its nuclear weapons program, declared in August 2007 that "the US-India Nuclear Agreement would have implications on strategic stability as it would enable India to produce significant quantities of fissile material and nuclear weapons from un-safeguarded nuclear reactors".⁴¹ Similarly, in February 2010, Pakistan's CD ambassador expressed concern that the FMCT might not "include other bomb

making materials such as reactor grade Plutonium, U233, Neptunium or Americium.”

a disparity between the Indian and the Pakistani fissile material stockpiles. Pakistan is believed to have only 0.1 and 2.1 tons of WGPu and HEU respectively, sufficient for about 20 Nagasaki type and 84 Hiroshima type weapons.⁴² It does not have any separated reactor grade plutonium even under safeguards.

Pakistan has been building new facilities that will allow it to significantly increase the size of its nuclear arsenal. It has been working on two new nuclear reactors to make plutonium for weapons, one of which began operating in late 2009/early 2010.⁴³ It has also been constructing facilities to make fuel for these reactors and to separate the plutonium that will be produced in the new reactors.

The differences in the sizes of the Indian and Pakistani stockpiles, and in turn the Chinese and the Indian stockpiles, will likely be a major issue in the path of a fissile material treaty.⁴⁴ Even if they allow talks to go forward at CD, India and Pakistan will probably not agree to be bound by an FMCT for several more years, until they have built up much larger stockpiles.

Country	Nuclear Warheads	Weapon grade Plutonium	Highly Enriched Uranium
United States	9,400, of which 4200 are awaiting dismantlement	38 tons	250 tons (for weapons)
China	< 200	2-4 tons	20 tons
Pakistan	70-90	0.1 tons	2.1 tons
India	60-70	0.7 tons	0.6 tons

Nuclear warhead and fissile material stockpiles: Source: NRDC/FAS and IPFM

The other arms race is in the arena of delivery vehicles.

India launched its first nuclear-powered submarine in July 2009, with plans to deploy several of these.⁴⁵ India joins the United States, Russia, the United Kingdom, France, and China in the club of those owning such nuclear-armed, nuclear-powered submarines.⁴⁶ In 2008, India carried out its first successful underwater launch of a 700 kilometer-range ballistic missile, *Sagarika*, intended for the submarine.⁴⁷

Analysts in Pakistan have called for the country to develop its own nuclear submarine, lease a nuclear submarine from a friendly power (i.e., China), deploy nuclear-armed cruise missiles on its diesel submarines, and continue fissile-material production for the “foreseeable future.”⁴⁸ Pakistan already has a naval strategic forces command charged to “exercise technical, training, and administrative control over the strategic delivery systems”, but it is not yet known if this command has been issued nuclear warheads like the air force and the army strategic force commands.⁴⁹

India is also developing an array of land-based missiles with frequent tests of variety of missile systems In February 2010; it tested the 3,500 kilometer-range *Agni-III* missile from a mobile rail launcher.⁵⁰ The missile is reported to be “fully inducted into the armed forces.” In March 2010, India tested the 250-km range land-based *Prithvi-II* missile,⁵¹ as well as the 700-km range *Agni -1* missile.⁵² India also tested its nuclear capable *BrahMos* cruise missile which the army and navy both are inducting into service.⁵³ India is working on a missile with a range of over 5,000 kilometer.⁵⁴

In May 2010, the Pakistan Army's Strategic Force Command carried out operational readiness test launches of the 300 km range *Hatf III (Ghaznavi)* missile and of the 650 km range *Hatf-IV (Shaheen-I)* missile.⁵⁵ The *Shaheen-1* is believed to be a reverse engineered Chinese-supplied M-9 missile.⁵⁶ In 2008, it carried out a test which was said to have “validated the operational readiness of a strategic missile group equipped with the *Shaheen-II* missile.”⁵⁷ *Shaheen-II* has a range of 2000 km. Pakistan also has tested the 350 km range air-launched cruise missile, *Ra'ad*.⁵⁸ It has also developed a 700 km range ground launched cruise missile, *Babur*, last tested in May 2009.⁵⁹

India has been testing components of a ballistic missile defense system, aimed at intercepting Pakistani ballistic missiles. In 2009, it carried out the third test of a missile interceptor.⁶⁰ Responding to India's pursuit of missile defenses, the Director of Arms Control and Disarmament Affairs at Pakistan's Strategic Plans Division, which is responsible for managing the nuclear-weapons complex and policies, has indicated possible responses could be for Pakistan to build more missiles, including cruise missiles, and build more warheads, develop decoys and multiple warhead missiles, and move to an alert deployment posture.⁶¹

In parallel with the nuclear and missile arms race there is a conventional arms race underway. In January 2010, India's Defense Ministry announced that it plans to spend over \$10 billion this coming year on acquiring new weapons.⁶² This was made possible by a 34 percent increase in India's military budget for 2009-2010.⁶³ India has become a major market for U.S. arms sales, with weapons makers like Lockheed Martin and Boeing procuring deals worth billions of dollars. But the real bonanza is still to come. India is said to be planning to spend as much \$55 billion on weapons over the next five years.⁶⁴ The International Institute of Strategic Studies expects that “the United States seems poised to be the main foreign supplier under India's new arms acquisition program.”⁶⁵

Pakistan also has been building up its own conventional forces, paid for in large part with U.S. military aid, with arms sales agreements worth over \$6 billion since 2001, including for new F-16 jet-fighters.⁶⁶ Pakistan has asked for 32 F-16s, which is about the size of its current fleet.⁶⁷ Delivery of the aircraft started in June 2010. Pakistan also has agreed with China to purchase and to jointly produce Chinese designed jet fighters.⁶⁸ It has also arranged to buy four early warning planes from China and seven surveillance planes from the United States.⁶⁹ Pakistan is also expanding its naval forces with U.S. and Chinese supplied frigates.

Conclusion

The intertwined and overlapping Pakistan-India-China-United States security relationships are driving a profoundly destructive dynamic in South Asia, one that is increasingly becoming globalised as Pakistan, dominated by its army, seeks Chinese and US military and economic support in its struggle with India; India seeks US support against China, and to satisfy its great power ambitions; and, as the United States tries to defer and limit its decline as the dominant world power by constraining and balancing the rise of Chinese power and influence, and as China seeks to establish itself as an emerging global power able to reorder the international system.

A basic reordering of priorities in each of these countries is long overdue. The first principle of their policy in the region and globally should be to do no more harm. Rather than feeding the fire between India and Pakistan, China and the United States should cooperate to damp down and put out the nuclear and conventional arms race. Only an end to the South Asian arms race can begin to undo the structures of fear, hostility, and violence that have sustained the conflict in the subcontinent for so long. The search for regional peace may then have at least a chance of success.

ENDNOTES

¹ The belligerence, crises and arms race unleashed by the May 1998 nuclear tests are described in M.V. Ramana and Zia Mian, "The Nuclear Confrontation in South Asia," *SIPRI Yearbook 2003: Armaments, Disarmament and International Security*, Oxford University Press, 2003.

² See for instance Zia Mian, "Renouncing the Nuclear Option," in Samina Ahmed and David Cortright, eds. *Pakistan and The Bomb*, University of Notre Dame Press, 1998.

³ Pervez Hoodbhoy and Zia Mian, "The India-Pakistan Conflict—Towards the Failure of Nuclear Deterrence," Nautilus Institute, Policy Forum, 13 November 2002.

⁴ "Dicing with Armageddon," *The Economist*, 18 May 2002, p. 59

⁵ Harsh V. Pant, "India's Nuclear Doctrine and Command Structure: Implications for Civil-Military Relations in India," *Armed Forces & Society* 33, no. 2 (2007): 238-64.

⁶ Firdaus Ahmed, "The Calculus of 'Cold Start'," *India Together*, May 2004.

⁷ "Cold Start Simulations in May," *Indian Express*, April 14, 2006.

⁸ <http://news.rediff.com/report/2009/oct/24/pak-dismisses-indias-call-to-secure-nuke-assets.htm>

⁹ For details of the US-India deal, see Zia Mian, A.H. Nayyar, R. Rajaraman and M.V. Ramana, *Fissile Materials in South Asia and the Implications of the US-India Nuclear Deal*, Research Report #1, (International Panel on Fissile Materials, September 2006).

¹⁰ Zia Mian and Daryl Kimball, "Time to Act Responsibly on Nukes," *The Press*, 21 June 2010, <http://www.stuff.co.nz/the-press/opinion/perspective/3833473/Time-to-act-responsibly-on-nukes>

-
- ¹¹ Pervez Hoodbhoy, "The Flight to Nowhere: Pakistan's Nuclear Trajectory," Heinrich Boll Stiftung, Lahore, 2009, http://www.boell-pakistan.org/downloads/The_Flight_To_Nowhere_by_Pervez_Hoodbhoy_GE.pdf
- ¹² Ahmed Rashid, "Renewed Strains Between Islamabad and Washington," BBC, 25 June 2010, http://news.bbc.co.uk/2/hi/world/south_asia/10375056.stm
- ¹³ See for instance Michael Klare, *Rising Powers, Shrinking Planet: The New Geopolitics of Energy* (New York: Metropolitan Books, 2008).
- ¹⁴ Admiral Sureesh Mehta, "India's National Security Challenges – An Armed Forces Overview," http://maritimeindia.org/pdfs/CNS_Lec_at_Habitat.pdf
- ¹⁵ <http://timesofindia.indiatimes.com/india/Indian-Armys-two-front-doctrine-betrays-hostile-intent-Pak/articleshow/5399965.cms>
- ¹⁶ Ma Jiali, "Striving to Establish a Constructive Cooperative Partnership between China and India," *China Report*, 36, no. 3 (2000): 375-381.
- ¹⁷ "Nuclear Anxiety; Indian's Letter to Clinton On the Nuclear Testing," *New York Times*, 13 May 1998.
- ¹⁸ <http://www.deccanherald.com/content/76494/india-airs-anxiety-china-over.html>
- ¹⁹ Kanti Bajpai, "Strategic Threats and Nuclear Weapons: India, China, and Pakistan," in M. V. Ramana and C. Rammanohar Reddy, *Prisoners of the Nuclear Dream* (New Delhi: Orient Longman, 2003), p. 46.
- ²⁰ Robert J. McMahon, *The Cold War on the Periphery: The United States, India, and Pakistan* (New York: Columbia University Press, 1994).
- ²¹ Anand Giridharadas, "'63 Tapes Reveal Kennedy and Aides Discussed Using Nuclear Arms in a China-India Clash," *New York Times*, 26 August 2005.
- ²² George Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation* (Berkeley: University of California Press, 1999).
- ²³ "Excerpts from Pentagon's Plan: Prevent the Re-Emergence of a New Rival," *New York Times*, 8 March 1992.
- ²⁴ "US unveils plans to make India 'major world power'" *AFP*, 26 March 2005.
- ²⁵ Ashley Tellis, *India as a New Global Power: An Action Agenda for the United States*, Carnegie Endowment for International Peace, 2005, p. 35.
- ²⁶ *Ibid*, p. 36.
- ²⁷ The lower estimate is from "NRDC Nuclear Notebook: World Plutonium Inventories," *Bulletin of Atomic Scientists*, September/October 1999, p. 71. The higher estimate is from *Global Fissile Material Report 2009: A Path to Nuclear Disarmament*, International Panel on Fissile Materials, 2009.
- ²⁸ Robert Norris and Hans Kristensen, "Chinese Nuclear Forces, 2008," *Bulletin of the Atomic Scientists*, 64, no. 3, pp. 42-45.
- ²⁹ David Albright, Frans Berkhout, and William Walker, *Plutonium and Highly Enriched Uranium 1996: World Inventories, Capabilities, and Policies* (Oxford : Oxford University Press, 1997), pp. 128-129.
- ³⁰ Li Bin, "China" in *Banning the Production of Fissile Materials for Nuclear Weapons: Country Perspectives on the Challenges to a Fissile Material (Cutoff) Treaty*, International Panel on Fissile Materials, 2008, p. 8.
- ³¹ Robert S. Norris, Hans Kristensen, "Chinese nuclear forces, 2008," *Bulletin of the Atomic Scientists*, July/August 2008, pp.42-45.

-
- ³² US Department of Defense, *Nuclear Posture Review Report April 2010*, p.5.
- ³³ US Department of Defense, *Nuclear Posture Review Report April 2010*, p.28.
- ³⁴ The White House, “Fact Sheet on the 1251 Report: The New START Treaty – Maintaining a Strong Nuclear Deterrent,” 13 May 2010, <http://www.whitehouse.gov/sites/default/files/New%20START%20section%201251%20fact%20sheet.pdf>
- ³⁵ <http://www.barc.ernet.in/talks/fddiro8.html>
- ³⁶ For example, then chairman of the Atomic Energy Commission, Anil Kakodkar, declared, “Both from the point of view of maintaining long term energy security and for maintaining the minimum credible deterrent the Fast Breeder Program just cannot be put on the civilian list.” See Pallava Bagla, “On the Record: Anil Kakodkar,” *Indian Express*, 8 February 2006.
- ³⁷ Alexander Glaser and M V Ramana, “Weapon-Grade Plutonium Production Potential in the Indian Prototype Fast Breeder Reactor,” *Science and Global Security* 15 (2007).
- ³⁸ Mycle Schneider, “Fast Breeder Reactors in France,” in Thomas B. Cochran, Harold A. Feiveson, Walt Patterson, Gennadi Pshakin, M.V. Ramana, Mycle Schneider, Tatsujiro Suzuki and Frank von Hippel, *Fast Breeder Reactor Programs: History and Status*, IPFM Research Report #8, February 2010.
- ³⁹ *Global Fissile Material Report 2009: A Path to Nuclear Disarmament*, International Panel on Fissile Materials, 2009.
- ⁴⁰ J. Carson Mark, “Explosive Properties of Reactor-Grade Plutonium,” *Science and Global Security* 4, no. 1 (1993).
- ⁴¹ “Press release by Inter-Services Public Relations, No. 318/2007”, 1 August 2007.
- ⁴² *Global Fissile Material Report 2009: A Path to Nuclear Disarmament*, International Panel on Fissile Materials, 2009.
- ⁴³ <http://www.washingtonpost.com/wp-dyn/content/article/2009/05/27/AR2009052703706.html>
- ⁴⁴ On Pakistan’s considerations with regard to the FMCT see Zia Mian and A. H. Nayyar, “Playing the Nuclear Game: Pakistan and the FMCT,” *Arms Control Today*, 40, no. 3, April 2010.
- ⁴⁵ http://news.bbc.co.uk/2/hi/south_asia/8169360.stm
- ⁴⁶ Israel is believed to have nuclear-armed cruise missiles on diesel powered submarines. See <http://www.guardian.co.uk/world/2003/oct/12/israel1>
- ⁴⁷ <http://www.hindu.com/fline/fl2506/stories/20080328250604600.htm>
- ⁴⁸ Tariq Osman Hyder, “Strategic Stability in South Asia” *The News*, Saturday, August 01, 2009.
- ⁴⁹ Kenneth N. Luongo and Brig. (Ret) Naeem Salik, “Building Confidence in Pakistan’s Nuclear Security,” *Arms Control Today*, December 2007.
- ⁵⁰ “Indian govt hails test of nuclear-capable missile,” <http://www.defencetalk.com/indian-test-of-agni-iii-nuclear-capable-missile-24076/>
- ⁵¹ “Prithvi-II, Dhanush Missiles fired successfully,” 27 March 2010, http://www.kalingatimes.com/odisha_news/news2010/20100327_Prithvi-II_Dhanush_missiles_test_fired_successfully.htm
- ⁵² “India test-fires N-capable Agni-1 missile,” 29 March 2010, http://www.dailytimes.com.pk/default.asp?page=2010\03\29\story_29-3-2010_pg7_3

⁵³ Nirmala George, "India tests new, more maneuverable version of cruise missile jointly developed with Russia," 21 March 2010, latimes.com/news/nationworld/world/wire/sns-ap-as-india-missile-test,0,7872797.story.

⁵⁴ <http://www.hindu.com/2008/09/23/stories/2008092359841000.htm>

⁵⁵ ISPR press release, 8 May 2010.

⁵⁶ Robert S. Norris and Hans Kristensen, "Nuclear Notebook: Pakistani Nuclear Forces, 2009," *Bulletin of the Atomic Scientists*, September/October 2009, pp. 82-89.

⁵⁷ "Pakistan launches longest-range nuclear-capable missile during exercise," *AP*, 22 April 2008.

⁵⁸ "Pakistan test-fires nuclear-capable cruise missile: military," *AFP*, 8 May 2008.

⁵⁹ "Babar missile test-fired last Wednesday," 9 May 2009, <http://www.nation.com.pk/pakistan-news-newspaper-daily-english-online/Politics/09-May-2009/Babar-missile-testfired-last-Wednesday>

⁶⁰ "India Tests Interceptor Missile," *AFP*, March 6, 2009.

⁶¹ Khalid Banuri, "Missile Defences in South Asia: The Next Challenge," *South Asian Survey*, vol. 11, no. 2, 2004.

⁶² <http://www.hindu.com/2010/01/01/stories/2010010153331800.htm>

⁶³ <http://www.blonnet.com/2009/07/08/stories/2009070851071700.htm>

⁶⁴ <http://online.wsj.com/article/SB124778767144054747.html>

⁶⁵ I International Institute of Strategic Studies, *The Military Balance 2009*, Routledge, 2009, p. 334.

⁶⁶ <http://www.fas.org/sgp/crs/row/RL33498.pdf>

⁶⁷ "Pakistan plans to buy 14 more F-16 jets from US," *Dawn*, 28 March 2010, <http://www.dawn.com/wps/wcm/connect/dawn-content-library/dawn/news/pakistan/03-pakistan-plans-to-buy-14-more-f-16-jets-from-us-ss-13>

⁶⁸ "PAF, Chinese firm sign deal to build JF-17 aircraft," *Dawn*, 8 March 2009, <http://www.dawn.com/wps/wcm/connect/dawn-content-library/dawn/news/pakistan/paf-chinese-firm-sign-deal-to-build-jf-17-aircraft-hs>

⁶⁹ Rauf Klasra, "\$278m AWACS deal struck with China," *The News*, 18 December 2008, http://www.thenews.com.pk/top_story_detail.asp?Id=19041, and Anwar Iqbal, "Pakistan gets two P-3 surveillance aircraft," *Dawn*, 1 May 2010, <http://www.dawn.com/wps/wcm/connect/dawn-content-library/dawn/the-newspaper/front-page/pakistan-gets-two-p3-surveillance-aircraft-150>.