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## **A Pakistani Perspective on Nuclear Disarmament and Non-proliferation**

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## 1 Introduction

Pakistan is one of the three nuclear weapon states that are outside the Nuclear Non-Proliferation Treaty (NPT), the others being Israel and India, and like them has a special relationship to the non-proliferation regime. Since it did not conduct a nuclear test before January 1967, Pakistan (like Israel and India), is not allowed to join the NPT as a nuclear weapon state. The country is known to have acquired nuclear weapons capability in the late eighties, but only tested weapons in 1998 in response to the Indian nuclear tests.

Pakistan's nuclear program was initially based on highly enriched uranium as the fissile material, achieving enrichment through gas centrifuge technology. Later it set up a dedicated nuclear reactor and a reprocessing plant to make plutonium for weapons. Estimates indicate that it may have by now uranium and plutonium sufficient for nearly 80 nuclear weapons of the simplest design. More advanced designs use smaller amounts of materials.

Pakistan built much of its fissile material production capability through technology purchases from the west and possibly with some assistance from China. The head of Pakistan's enrichment program, Dr. A.Q. Khan, who had earlier worked at the European enrichment company URENCO, took advantage of URENCO centrifuge design information, and an international network of suppliers to acquire uranium enrichment centrifuge technology for Pakistan. The same network seems to have later helped him transfer the technology from Pakistan to Libya, North Korea, and Iran.

Pakistan's security concerns have always been directed towards India. Having emerged from India's womb as a separate homeland for Indian Muslims, Pakistan has been consumed with a feeling of a threat to its existence from its larger, stronger and often unaccommodating neighbour. The two states have had four wars (1947, 1965, 1971, and 1999) and numerous crises. During recent crises, leaders in both countries have threatened the use of nuclear weapons.

Like India, Pakistan regards international arms control arrangements as undermining its nuclear ambitions. While it was still developing nuclear weapons, Pakistan offered to sign the NPT, if India would, and to create a regional nuclear weapons free zone. Pakistan has also refused to sign the Comprehensive Test Ban Treaty, demanding that India also sign. Fearful of India's potentially larger nuclear arsenal, Pakistan is also

now struggling hard to include the verification and reduction of stockpiles of nuclear weapons materials as part of a Fissile Material Cut-Off Treaty that might be negotiated at the UN Conference on Disarmament. Seeking to offset India's much larger conventional military forces with nuclear weapons, Pakistan has refused Indian offers of a "No First Use" agreement, proposing instead a 'strategic restraint regime' that would involve the two countries balancing both nuclear and conventional capabilities.

The deteriorating state of governance in Pakistan, rising religious militancy, and support for terrorist ideologies, coupled with the existence of nuclear weapons, and the experience of the A.Q. Khan network, have fuelled international concerns about the safety and security of Pakistan's nuclear weapons and materials and the loyalty of its nuclear scientists. Pakistan insists that such fears are not well-founded.

Pakistan is not likely to unilaterally give up its nuclear weapons, and may not do so even in a bilateral arrangement with India. Pakistan may agree to nuclear disarmament in the context of global abolition of nuclear weapons, largely because it could not resist the political pressure from the great powers and the larger international community. It is however, likely to seek security guarantees with regard to India.

## 2 Origins of Pakistan's nuclear program and relations with India

Pakistan's nuclear program started with acquisition of civilian nuclear technology and training of manpower in nuclear sciences and technology in the 1960s, aided by the Atoms for Peace program of the USA, together with liberal technical and academic assistance from the laboratories and universities of the advanced western countries.

The turning point for Pakistan in favour of acquiring nuclear weapons came in the wake of military defeat at the hands of India in December 1971, and India-assisted secession of the eastern part of Pakistan (now Bangladesh). Nuclear weapons were seen as an essential leveller against the overwhelming Indian superiority in conventional weapons. The new leader of the dismembered country, President Zulfikar Ali Bhutto, famously expressed the state of desperation, vowing to acquire nuclear weapons even if it meant surviving on eating grass. The Indian nuclear test of 1974 only strengthened the resolve and increased the level of urgency. By then Pakistan had a sizeable pool of specialists in nuc-

lear sciences and engineering to start the nuclear weapons program around.

Seeking to curb a nascent Pakistani nuclear weapons program, the United States and its allies imposed a number of sanctions on Pakistan, including denial of fuel and heavy water for an IAEA safeguarded nuclear power reactor. Even though some US sanctions were not implemented for many years because of Pakistan's support for the US war in Afghanistan against the Soviet Union, and despite many billions of dollars in US economic and military aid to Pakistan, these sanctions left a profound sense of unfairness about Western non-proliferation policies among Pakistani policy makers and the public.

Despite sanctions and export control regimes, Pakistan was able to tap into the market of nuclear technology in North America and Europe to support its nuclear weapons program. Led by A. Q. Khan, Pakistan set up a program for the transfer of advanced technology to Pakistan through underground networks of suppliers. To avoid detection, this required that Pakistan's nuclear program have immunity from government and media scrutiny, freedom from normal import and export and financial rules, which would later prove critical in transferring technology to foreign buyers.

The mainstay of Pakistan's nuclear program was uranium enrichment through gas centrifuge technology, led by A. Q. Khan. But Pakistan also continued working on alternative means of obtaining nuclear explosive material. For example, it explored the aerodynamic nozzle and laser technologies for uranium enrichment, and was reported to have made significant headways in both before abandoning them in favour of a more efficient and rapidly growing gas centrifuge technology.

Pakistan was also from the beginning working on the plutonium option for nuclear weapons. This was the path adopted by its rival India. The Canadian NRX reactor is simple enough in design to allow Pakistan to make one indigenously. Thus in the very early stages of its nuclear trajectory, Pakistan tried to openly obtain a nuclear reprocessing plant from France. The French had almost given in to the commercial gain from the deal, until the deal was blocked by the United States. Had the deal been successful, Pakistan would have almost certainly taken more strident steps in manufacturing plutonium for nuclear weapons, as India had done.

Pakistan had begun its quest for nuclear weapons in 1974 with little indigenous nuclear infra-

structure. It did not produce domestic uranium. It had neither the capacity nor a need to fabricate fuel for its only reactor. It had no expertise in ultracentrifuge design and dynamics, and no significant laboratory facilities in nuclear chemistry. The only asset it had was a pool of manpower in nuclear sciences, trained mainly in Britain, Germany, USA and Canada. The nuclear technology purchased by Pakistan in bits and pieces from the willing traders in advanced countries could not have been utilized except for the trained manpower.

The sanctions and denials forced Pakistan to develop several technologies indigenously that it may not have otherwise attempted. It started to fabricate natural uranium fuel and manufacture heavy water for its safeguarded nuclear reactor in Karachi.

Eventually, Pakistan did make an NRX reactor of its own, together with heavy water and natural uranium fuel for it, and started operating the reactor in 1998. The first batch of weapon-grade plutonium, good for a little over two weapons, may have come out of this reactor in the year 2000. It is quite likely that had Pakistan's attention not been diverted to the more fruitful uranium enrichment program, it might have achieved this land mark sooner.

Pakistan is now in the process of making two more reactors and a larger reprocessing plant. When these facilities come on line, Pakistan will be able to produce three times as much weapon-grade plutonium, good for about 7 weapons a year.

### **3 The A. Q. Khan network, and proliferation to and from Pakistan**

It is however true that Pakistan made a very rapid progress in its nuclear weapons technology due to the enrichment program led by A. Q. Khan, a program that heavily depended on illicit transfer of advanced technology to Pakistan through underground networks of suppliers.

Pakistan's successful utilization of international underground networks meant that once Pakistani scientists had mastered the art, the networks would have both reason and opportunity to use their connections in the Pakistani nuclear establishment to supply the technology to other potential buyers. Pakistan thus became a source of proliferation of nuclear technology to Libya, Iran and North Korea. These transfers also reflect that Pakistan has not been concerned about these countries acquiring nuclear weapons.

There is no doubt that the Pakistani government was a partner in the transfer of technology to Pakistan in the 1970s and 1980s. But it claims not to have been aware of the subsequent outward proliferation. Although Khan has since confessed in public to trafficking Pakistani nuclear technology, and taking sole responsibility, it is not clear if the whole story has yet emerged. In particular, few observers believe that Khan could have managed to keep secret long term export of nuclear technology at this scale given that the Pakistan army has such close control over the country's nuclear program.

Concern about Pakistan is made more acute by evidence that several scientists from Pakistan's nuclear complex have had ties to Islamist groups, including some who are reported to have met with the Al-Qaeda leadership in Afghanistan before 9/11. The concern has been compounded by the violent Islamist insurgency in parts of the country in recent years. There is also increasing and widespread public hostility towards the United States because of its conduct in Afghanistan since 9/11, its role in attacking Islamist militants in Pakistan's Tribal Areas, and in pressuring Pakistan to take a harder line against the militants.

#### **4 Pakistan's control over its nuclear weapons and facilities**

Pakistan's government has tried to assure the West and quell doubts about the safety of its nuclear weapons from accidental or unauthorized use. It has also tried to mend its reputation damaged by the A. Q. Khan affair by enacting and strengthening laws and mechanisms to control the marketing of nuclear technologies and imposed new controls on its nuclear weapons facilities, materials and personnel.<sup>1</sup> It is believed to have received technical and financial support from the US in these efforts.

Pakistan established a nuclear command authority, named National Command Authority, in 2000. The Authority claims to have established effective security of the weapons complex, associated material and personnel, and a reliable command, control, communication and intelligence system. The authority claims to have de-

veloped and put in place a reliable Permissive Action Links system on nuclear weapons, including a one-point safety system.

Members of the secretariat of the National Command Authority have been visiting influential think tanks overseas trying to assure them of the safety and security of the nuclear complex. But the need to maintain secrecy about the program has limited both what support Pakistan has been willing to take from the US, and the information it is willing to provide. As a result, there remains considerable scepticism about the security of Pakistan's nuclear complex.

#### **5 Pakistan's nuclear policy**

Pakistan has not announced a formal nuclear doctrine, but it is often described by officials as a minimum credible nuclear deterrence, directed against India. It has been suggested that Pakistan might use nuclear weapons not just in response to nuclear threats or attacks, but also in response to threats to any of its strategic vulnerabilities. These could result from an overwhelming conventional military attack, a naval blockade, a blockade of rivers waters, etc. In short, Pakistan's nuclear weapons are meant not only to counter the threat of a nuclear attack, but also threats from conventional military actions against it. Pakistan thus does not discount the first use of nuclear weapons in a conflict. This is typical of a weaker adversary in a nuclear stand-off.

Pakistan's deterrence policy also likely includes the possibility of using nuclear weapons against civilian targets.

Pakistan may currently have anywhere between 50 and 80 nuclear weapons. The weapons that were tested were of size (15-20 kilotons) of the weapons dropped by the US on Hiroshima. The weapons are to be delivered to the target by aeroplane as well as missiles. It is believed that Pakistan has configured its fleets of F-16 and Mirage fighter planes to deliver nuclear weapons. Pakistan has developed a number of missiles, from short to medium-ranged, many of which are designed to carry nuclear weapons. Pakistan has recently tested a cruise missile, a development that has been in part in response to India trying to set up a missile defence shield with purchases of advanced radar systems from Israel. Cruise missiles may give Pakistan a more assured penetrability.

Pakistan does not follow the policy of keeping its nuclear weapons unassembled and de-mated from missiles, although it has invited India to

<sup>1</sup> Statement by Ambassador Shaukat Umer, Permanent Representative of Pakistan to the United Nations, Geneva, in the General Debate of the First Committee of the 59th Session of the UN General Assembly on 12 October, 2004. <http://www.pircenter.org/data/resources/Statement1.pdf>

such a policy. Fearing susceptibility of its nuclear weapons to a pre-emptive strike from India, it perhaps follows a policy of dispersal so that some weapons survive for a second strike capability. A dispersal of weapons would need to be accompanied by a delegation of authority to lower levels to use nuclear weapons in certain desperate situations. But it is not known how Pakistan has overcome the accompanying problem of erosion of control over the use of nuclear weapons brought in by the delegation of authority.

## 6 Pakistan and international arms control and disarmament regimes

Pakistan's posture towards all existing and proposed non-proliferation, arms control and disarmament agreements is determined by its bilateral relationship with India. It typically offers to sign a given international agreement provided India also signs, and refuses to sign those that India does not.

Like India, Pakistan would like to join the NPT regime as a declared nuclear weapon state. Since this is not possible under the current formulation of the Treaty, and since the two countries are not inclined to join the Treaty as non-weapon states, Pakistan and India are likely to remain outside of the Treaty for the foreseeable future. Together with the failure of nuclear weapon states to satisfy their obligations under NPT Article VI (disarmament) and the demands of non-weapon states to have access to peaceful nuclear technology (Article IV), the inclusion of India, Israel and Pakistan will remain a major challenge for NPT members. What is clear is that the faster the treaty takes the world to complete nuclear disarmament, the quicker will be the resolution of the anomaly of India, Israel and Pakistan.

Before it had tested nuclear weapons, Pakistan had proposed a simultaneous adherence to NPT by India and Pakistan, and suggested it would sign the CTBT if India also signed. India refused. In spite of a moratorium on further testing of nuclear weapons since 1998, India and Pakistan would not like to join the CTBT. Nor are they facing any pressure on this count because of the refusal by the USA to ratify the treaty. This may change if the next US administration decides to pursue ratification of the treaty.

In more recent international negotiations, Pakistan has found it necessary to take a position independent of India's. Concerned by the large stocks of plutonium in India, Pakistan is demand-

ing that any treaty banning further production of fissile materials for weapons must include verified accounting and reduction of stocks. Its insistence on this position is now seen to be stalling further progress on the negotiations at the UN Conference on Disarmament.

## 7 Pakistan and regional arms control and disarmament measures

Pakistan has over the years proposed a number of bilateral or regional non-proliferation steps to India, including:

- a joint Indo-Pakistan declaration renouncing the acquisition or manufacture of nuclear weapons, in 1978;
- South Asian Nuclear Weapons Free Zone, in 1978
- mutual inspections by India and Pakistan of each other's nuclear facilities, in 1979;
- simultaneous adherence to the NPT by India and Pakistan, in 1979;
- simultaneous acceptance of full-scope IAEA safeguards, in 1979;
- a bilateral or regional nuclear test-ban treaty, in 1987;
- a South Asia Zero-Missile Zone, in 1994

The first few proposals on nuclear abstention were floated at a time when Pakistan had not yet mastered nuclear weapons technology, while the latter proposals are more in the spirit of nuclear restraint than abstention. None were entertained by India.

Pakistan and India have however reached three bilateral agreements on nuclear issues. In 1989, they agreed not to attack each other's nuclear facilities. Since then they have been regularly exchanging lists of nuclear facilities on January 1 each year. They toyed with an agreement on alerting the other on ballistic missile tests, and eventually signed a treaty in March 2005. In June 2004, the two countries signed an agreement to set up and maintain a hotline to warn each other of any accident that could be mistaken for an attack. These were deemed essential risk reduction measures in view of the seemingly unending state of misgiving and tension between the two countries, and the extremely short response time available to them to any perceived attack. It is significant that none of these agreements limits the nuclear weapons programs of either country in any way.

On the other hand, India has repeatedly offered to Pakistan a treaty on no first use of nuclear weapons, which Pakistan always spurned.

The prospects for bilateral or regional arms control arrangements are limited because of severe opposition from India. India has expressed security concerns and ambitions that transcend South Asia. It has often rationalized its possession of nuclear weapons by claiming that it needed nuclear weapons as long as the great powers in the world had them. India has in recent years become more ambitious and seeks to become a major power in its own right. With a growing economy, and big powers wooing it, India has started to think of a bigger role for itself in global affairs and no longer wishes to be seen or treated as part of an India-Pakistan equation. Indian leaders today want, among other things, the status of a recognized nuclear weapons state, with "the same benefits and advantages as other leading countries with advanced nuclear technology, such as the United States", as well as a permanent seat on the UN Security Council.

India's new ambitions have resonated with changing US perceptions about Asian and global politics. The US has started to regard India as a useful counterweight to the rapidly rising economic and geopolitical power of China. The foundation of this strategic relationship was laid during the Clinton administration. During the March 2000 visit to India by President Clinton, the joint statement said, "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." This was followed by the "Next Steps in Strategic Partnership" (NSSP) initiative in 2004 that allowed for cooperation between the US and India on civilian nuclear activities, civilian space programs, high-technology trade, and missile defence. In 2005, President George W Bush and Prime Minister Manmohan Singh formally signed an agreement on nuclear cooperation that has now made its way through the US Congress in the form of the Hyde Act, the Indian Parliament and the International Atomic Energy Agency. It now needs to be approved by the Nuclear Suppliers' Group, and the US Congress will eventually have to approve its final form.

If the deal goes ahead, India will be able to buy uranium, nuclear reactors and other technology for its civilian nuclear program from the international market. India has been banned from such

trade for thirty years, since it used technology acquired for peaceful purposes for its nuclear weapons program (a similar ban is in place for Israel and Pakistan). Opponents of the US-India deal argue that the import of uranium under the deal will allow India to use more of its domestic uranium for nuclear weapons program, and thus greatly enhance its nuclear arsenal. The deal also indicates an end to punishing India for remaining outside the NPT and for becoming a nuclear weapon state. In effect, it recognizes India as a nuclear weapon state.

## 8 Pakistan's response to US-India nuclear deal

Pakistan has viewed these developments with suspicion and alarm, and has reacted to them in a predictable manner. It fears that the world will accept India's nuclear status and exempt it from sanctions but deny the same status to Pakistan. It also believes India will increase its weapons making capacity and widen what it sees as a major asymmetry in nuclear arsenals. Pakistan's National Command Authority, which is the highest body responsible 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 unsafeguarded nuclear reactors... and expressed firm resolve to meet the requirements of future credible minimum deterrence."<sup>2</sup> In a letter to members of IAEA and NSG in July 2008, Pakistan again warned the international community that a deal allowing India to import US atomic fuel and technology could accelerate a nuclear arms race between Delhi and Islamabad.<sup>3</sup>

Pakistan has therefore made a two-fold demand: that it should also be allowed to import civilian nuclear technology, and that the US should enter into a similar deal with Pakistan. Pakistan has suggested that Nuclear Suppliers Group (NSG) should evolve a criteria based approach to also enable Pakistan to access civil nuclear energy under IAEA safeguards to meet its growing energy requirements.<sup>4</sup> The US has refused to negotiate or support a similar deal with Pakistan on

<sup>2</sup> "Press release by Inter-Services Public Relations, No. 318/2007", August 1, 2007, [www.ispr.gov.pk/Archive&Press/Aug2007/2-Aug-2007.htm](http://www.ispr.gov.pk/Archive&Press/Aug2007/2-Aug-2007.htm).

<sup>3</sup> <http://www.timesonline.co.uk/tol/news/world/asia/article4389924.ece>

<sup>4</sup> <http://www.globalsecurity.org/wmd/library/news/pakistan/2007/pakistan-070803-irna01.htm>

the grounds that Pakistan has not proved itself to be responsible when it comes to nuclear proliferation.

Pakistan may have already embarked on the path of building up its nuclear weapons making capacity. It has been reported that Pakistan is building two more plutonium production reactors, a larger reprocessing facility, and may increase its uranium enrichment capacity through using more advanced centrifuges. If this is true, then by 2020, Pakistan may be able to accumulate enough HEU and plutonium for 200 to 250 nuclear weapons as compared to about 80 now.

## 9 Pakistan and the nuclear weapons free world

Pakistan has always expressed concerns about the asymmetry in military capacity between India and itself. It regards its nuclear weapons as a means to offset asymmetry in conventional weapons. Thus, beyond nuclear disarmament, Pakistan also wants to balance conventional forces.

In a recent statement at the Conference on Disarmament, Pakistan laid out its security concerns and what it sees as the proper goals and requirements for meaningful negotiations:

- a commitment by all states to complete verifiable nuclear disarmament;
- eliminate the discrimination in the current non-proliferation regime;
- normalize the relationship of the three ex-NPT nuclear weapon states with NPT;
- address new issues like access to WMD by non-state actors;
- non-discriminatory rules ensuring every state's right to peaceful uses of nuclear energy;
- universal, non-discriminatory and legally binding negative security assurances to non-nuclear weapon states;
- a need to address the issue of missiles, including development and deployment of ABM systems;
- strengthen existing international instruments to prevent the militarization of outer space, including development of ASATs;
- tackle the growth in armed forces and the accumulation and sophistication of conventional weapons;

- revitalize the UN disarmament machinery to address international security, disarmament and proliferation challenges;

The altruism expressed in the demands aside, this list belies a fear of remaining in a disadvantaged position when a treaty like FMCT comes into effect. One can also discern a desire to offset the disadvantage by buying time to amass a sizeable nuclear arsenal, and also a need to keep nuclear weapons as equalizer in the face of an adversary with an overwhelming conventional force.

## 10 Conclusions

Pakistan has repeatedly stressed at international forums like the Conference on Disarmament that it will give up its nuclear weapons only when other nuclear armed states do so, and when disarmament is universal and verifiable. It rejects any unilateral disarmament on its part.

Although Pakistan has repeatedly offered a regional nuclear disarmament option to India, the offer is inconsistent with the position it has taken in respect of asymmetries in conventional defence and is largely meant to cast Pakistan in a favourable light. .

Pakistan has a deep fear of the overwhelming superiority that India enjoys in conventional forces. The differential between the conventional forces of the two countries has increased over the decades. Pakistan now regards its nuclear weapons as a deterrent not just against an Indian nuclear attack, but also against a conventional one.

Reflecting this fear, Pakistan has started to club together nuclear disarmament with a demand of removal of asymmetries in conventional forces. If this linkage continues, then it is likely that Pakistan will continue to hinder progress in negotiations on nuclear disarmament.

Pakistan recognises that NPT is generally valued by the nuclear weapon states, as well as many non-nuclear weapon states, as the main global mechanism currently available to implement a nuclear non-proliferation policy. But the Treaty also has problems. There is little progress under Article VI, and the non-nuclear weapon states feel utterly powerless in forcing the nuclear weapon states to seriously negotiate disarmament. The Treaty also seems to have all the coercive apparatus against non-nuclear violators, but none against a nuclear violator.

Pakistan believes that NPT will continue to be preserved in spite of the many problems. Given a

chance, Pakistan would like to be in the same position as the NPT weapon states and benefit from this discrimination.

Since Pakistan has its own enrichment and re-processing programs, it would be willing to accept internationally controlled nuclear fuel cycle as an element of a global non-proliferation regime provided it covers only its ambitious civilian nuclear energy program.

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