NUCLEAR PROLIFERATION

WITH PARTICULAR REFERENCE TO SOUTH ASIA

NUCLEAR PROLIFERATION WITH PARTICULAR REFERENCE TO SOUTH ASIA

T. V. PAUL

Dissertation submitted to the Jawaharlal Nehru University
in partial fulfilment of the requirements for the
award of the Degree of

MASTER OF PHILOSOPHY

CENTRE FOR INTERNATIONAL POLITICS AND ORGANISATION
SCHOOL OF INTERNATIONAL STUDIES
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI-110067
INDIA

1984

P R E F A C E

Nuclear proliferation has been treated essentially as an integral part of the nuclear arms race. The principal concern of the arms controllers has been whether the developing nations or the so-called nuclear 'have-nots' will go nuclear either wilfully or clandestinely while going for civilian nuclear technology apparently for their energy requirements. One of those sensitive areas where such a fear persists is South Asia because both India and Pakistan have been regarded as near nuclear weapon powers. India has already exploded a nuclear device way back in 1974. Reports about the Pakistani efforts to achieve nuclear weapons capability, through indigenous or clandestine means has further increased this concern.

This study is primarily focussed on the following hypotheses: will India go nuclear? Will Pakistan go nuclear? What are the compulsions and constraints on both these countries to exercise their nuclear option? What would be the impact of such fateful decisions of India and Pakistan on South-Asia on the one hand and the non-proliferation regime on the other?

The chapterisation scheme is as follows: The first chapter deals with the non-proliferation regime and the perceptional dichotomy between the nuclear 'haves' and

'have-nots' on the feasibility of the regime. In the second chapter an attempt is being made to examine the nuclear options of India, its incentives for acquiring nuclear weapon capability and the constraints on the option. The third chapter deals with Pakistan's nuclear options, its compulsions and incentives for going nuclear and the constraints on such an option. The concluding chapter deals with the prospects and implications of nuclear proliferation in South Asia.

The research methodology adopted in this study is purely analytical. The author has no intention of replicating the data already used in other studies. Some deductions based on an empirical approach, are unavoidable in a study of this nature. Since a wide spectrum of views on South Asian nuclear proliferation is already available, it is thought that no interviews are required.

I am deeply indebted to Prof. T.T.Poulose, my supervisor for his highly perceptive suggestions while working on the study and his sincere cooperation and guidance for its completion. I am also grateful to my brother Dr.T.V.Mathew and Mr.K.Vijayakrishnan for providing invaluable inspiration and assistance.

(T.V. PAUL)

C O N T E N T S

Chapter I

THE NUCLEAR NON-PROLIFERATION REGIME: PERCEPTIONAL DICHOTOMY BETWEEN NUCLEAR 'HAVES' AND 'HAVENOTS'

THE REGIME

More than a decade has passed since the current nuclear non-proliferation regime was established. Despite the serious challenges posed by the South to its credibility, the regime has survived as a loose structure of treaty commitments, safeguards and inspection, nuclear export group's controls, bilateral agreements, regional arrangements, and finally, individual nations' pledges.[1]

The building up of the regime dates back to the Baruch Plan of 1946 when the representative of the United States to the United Nations Atomic Energy Commission proposed the creation of an international authority to conduct all phases of atomic energy development. The plan proposed to keep atomic bombs out of the hands of sovereign states by placing the means to make them under the supervision of a supranational body.[2] It proposed to give the body the power to impose sanctions for minor violations and suggested a veto free Security Council to

---

1. SIPRI Year Book, 1983 (London, 1983), p.69.

2. Michael Mandelbaum, The Nuclear Question: The United States and Nuclear Weapons, 1946-1976 (Cambridge: 1979), pp.23-24.

deal with major violations.[3] Further it suggested that a control system be set up after which the stockpile of nuclear weapons in the possession of the USA, the only nuclear weapon power at that time, would be disposed of.[4]

The Baruch Plan was opposed by the Soviet Union, then a non-nuclear weapon state, apparently because such control would have halted all its efforts to challenge the U.S. monopoly. Instead, it made a counter proposal that left nuclear resources in national hands and gave the international authority only the powers to conduct certain inspections.[5]

By 1955 the stockpiles of nuclear weapons had grown so large that it seemed impossible to give satisfactory assurances for their elimination. Because of this problem the United States also officially dropped the Baruch Plan.[6]

The next step in the creation of the regime came in 1953 when President Eisenhower presented his "Atoms for Peace" proposal at the U.N. It called for the creation of an international agency that would distribute nuclear materials among countries for peaceful purposes. Subsequently, the International Atomic Energy Agency (IAEA) was

---

3. W.Hafele, "NPT Safeguards in Nuclear Proliferation Problems," in Jasani, B.(ed.), Nuclear Proliferation Problems (Stockholm, 1974), p.142.

4. Ibid.

5. Ibid., p.143.

6. Ibid.

established with the intention of promoting peaceful nuclear energy programmes and establishing and administering the safeguards system.

The IAEA safeguards system, which came into operation in 1965, envisages three major categories of agreements with national governments. They are: (1) "The Safeguards Transfer Agreements" by which parties to a bilateral agreement for cooperation in the nuclear field transfer to the Agency the right and obligation to apply the safeguards foreseen in such agreements, (2) "The Unilateral Submission Agreements" under which states submit all or a defined part of their peaceful nuclear activities to the Agency safeguards and (3) "The Project Agreements" which pertain to assistance directly provided by the Agency.[7]

The emergence of the current nuclear non-proliferation regime is intrinsically related to the Non-Proliferation Treaty (NPT) of 1968. Under the Treaty countries that possessed nuclear weapons would pledge not to give them away and not to assist other nations in producing them. Countries not possessing such explosives would agree to accept safeguards by IAEA on all their peaceful nuclear activities in order to ensure that such facilities and

---

7. Safeguards Against Nuclear Proliferation, A SIPRI Monograph (Stockholm, 1975), p.13.

materials are not diverted to the production of nuclear explosives.[8]

Freezing of the present nuclear status quo was thus one of the major objectives of the original sponsors of the Treaty. Designed to forbid the emergence of a sixth nuclear power, the Treaty created a mechanism for peaceful nuclear development among the "have nots" by imposing on them a set of safeguards and pledges, while a corresponding obligation on nuclear "haves" to control vertical proliferation was not envisaged.

The builders of the regime could not be contended with the NPT and the IAEA administered safeguards system. Supply of fissile materials and critical equipment to unstable Third World governments, they feared, would reduce the lead time to acquire nuclear weapons by these governments.

The Nuclear Suppliers Group (NSG) which came into existence in London in 1975 with its own guidelines on the transfer of sensitive technology, equipment and materials was aimed at further strengthening the regime. Originally the Group comprised seven nations (Canada, West Germany, France, Japan, the USSR, the UK and the USA). It was

---

8. George Quester, The Politics of Nuclear Proliferation (Baltimore, 1973), p.1.

expanded to fifteen with the addition of Belgium, Czechoslovakia, East Germany, Italy, the Netherlands, Poland, Sweden and Switzerland. The guidelines agreed upon by these countries, provided for the application of IAEA safeguards whenever nuclear facilities, materials or technology were transferred and the exercise of special caution and restriction when spent-fuel-reprocessing and uranium-enrichment were involved.[9]

Pitfalls of the Non-Proliferation Regime

The nuclear non-proliferation regime, thus established, is purported to arrest the spread of nuclear weapons to other countries and regions where it do not exist now. Vocalists of the regime often portray the picture of a "nuclear armed crowd" when twenty to twenty five nations acquire nuclear capability before 1985.[10]

A distinctive feature of some of these projections is that capability is often delinked from intention. Except a brand of 'pariah' and 'paranoid' states most other Third World countries have proclaimed their opposition to acquire nuclear weapons. Hence a disbelief on the part of the managers of the international system is evident in the non-proliferation strategy and writings on it.

---

9. The Strategic Survey, 1976 (London, 1976), p.116.

10. Albert Wohlstetter and Others, Swords from Ploughshares (Chicago, 1979), p.5.

The regime has certain other serious pitfalls too. Firstly, it is linked with the alliance system in international politics. Alliance partners of the two power-blocs in Europe are always treated by the supplier countries with special preferences in the transfer of technology and critical materials, while the Non-Aligned and Neutral nations are looked upon with suspicion. Projections are being made on their 'dubious' intentions and 'hidden motives'.

Anti-proliferation writers often forget the fact that alliance politics has quickened the pace of proliferation in new areas where previously no weapons existed. The Pacific and Indian Oceans bear testimony to this argument. In fact the security pledges by super powers can be viewed as inducing factors for more and more independent-minded Third World countries to join one alliance or other. The super power motives in this regard are not based on the noble cause of creating a denuclearised world but on the narrow national interest of perpetuating superiority.

The concern is, obviously, the continuance of the central strategic balance and the central strategic systems. The spectre of proliferation, according to a writer, evokes among statesmen and strategists in the industrialised world a set of fears, both specific and general, that proliferation will have a debilitating effect on the prudential management

of East-West security relationships, particularly the Soviet-American nuclear equilibrium.[11] Deterrence, undoubtedly, is the edifice on which crisis stability between the super powers is ensured. However, deterrence has proved delicate and even unstable as the mindless arms race continues unabated. Anti-proliferation supporters would, therefore, be less interested to see deterrence further shaken by the advent of new nuclear weapon powers.

Secondly, the NPT is discriminatory both in its structure and application. Article IX(3) of the Treaty defines a nuclear weapon state as one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to January 1, 1967.[12] This legitimisation of a few nations' nuclear weapons is a clearcut evidence of the discriminatory nature of the Treaty. The provision of giving sanctity to the weapons of a group of nations because they became nuclear powers before a particular period is rather unusual as compared to many other modern international treaties. The Treaty, besides imposing a serious restriction on the sovereign rights of the non-nuclear weapon states (NNWS) also allows the nuclear weapon states (NWS) to continue their weapon building programme as the safeguards are not applicable to their facilities. "The NNWS were accepting an

---

11. Ted Greenwood and Others, Nuclear Proliferation: Motivations, Capabilities and Strategies for Control (New York, 1980), p.15.

12. See Text of NPT in The NPT: The Main Political Barrier to Nuclear Weapon Proliferation, SIPRI (London, 1980).

immediate and important restriction on their sovereignty by agreeing not to go nuclear while the nuclear powers were committed only to a promise to attempt to divert themselves of their nuclear weapons capability at some indefinite future time".[13]

A third inbuilt weakness of the regime is the total avoidance of vertical proliferation from its purview except the indirect reference in Article VI of the NPT. Advocates of nuclear non-proliferation either underestimate or ignore the threat of vertical proliferation which is predicated on the assumption that civilian route will eventually lead NNWS to weapon building capability. Uranium enrichment capabilities that many countries are going to acquire in the near future are presented in a horrifying manner. But the threat to global security posed by the uncontrolled vertical arms race is often ignored. By December 1982 the total number of nuclear explosions carried out since 1945 by the five nuclear powers and India had reached 1375. Out of this, 1200 explosions were conducted by U.S.A. and the Soviet Union. In 1982 alone, the U.S.A. conducted 17 tests while the USSR, 31.[14]

---

13. William Epstein, The Last Chance: Nuclear Proliferation and Arms Control (New York, 1976), p.108.

14. SIPRI, n.1, p.97.

Despite the conclusion of SALT I and a number of other agreements, the super powers have engaged in nuclear arms race at a spiralling pace. At present the U.S. possesses in its armoury a total explosive yield of about 9000 mt. of TNT. In other words, the U.S. has added the equivalent of one Hiroshima bomb (12.5 kts) to its arsenal every 30 minutes since World War II.[15]

The nuclear regime also witnessed a decade without any breakthrough in super power arms control negotiations. Indeed, it witnessed worsening of US-USSR relations with new areas of tension cropping up. The SALT II agreement did not come into force due to a variety of reasons. The strategic arms reduction talks (START) proved to be a non-starter. Vertical proliferation is poised for a new take-off as the Geneva negotiations on Euro-missiles failing to make any headway. The Stockholm International Peace Research Institute (SIPRI) has warned that if the current arms control negotiations in Geneva fail there is the prospect of an increase in the world stockpile of nuclear weapons from the figure of about 50,000 today to 60,000 early in the 1990s and with many new and more accurate warheads.[16]

---

15. Ibid., p.LII

16. Ibid.

Fourthly, the non-proliferation regime has failed to provide the NNWS the civilian benefits of nuclear technology on a non-discriminatory basis as promised by the regime builders. For instance, Article V of NPT says that the potential benefits from any peaceful applications of nuclear explosions will be made available to NNWS, party to the treaty on a non-discriminatory basis.[17] The same Article also calls for the creation of an international body with adequate representation of NNWS for facilitating special international agreements on this. The NWS have not so far taken any step to create such an international mechanism nor shown any willingness to share the spin-off benefits of peaceful nuclear explosions (PNEs). Thus the promises made in the NPT on sharing the benefits of PNEs are yet to be fulfilled. The NWS are continuing PNEs for experiments to extract oil, natural gas and minerals and other engineering projects. The US initiated "Project Ploughshare" in 1957 and conducted 41 nuclear explosions reportedly for peaceful purposes, between 1961 and 1963, while the Soviet Union conducted 34 such explosions between 1961 and 1974.[18] Out of the 31 nuclear tests the USSR conducted in 1982, sixteen are believed to be PNEs.[19]

---

17. SIPRI, n. 12.

18. Hedley Bull, "Wider Still and Wider: Nuclear Proliferation 1950-1975," International Perspectives (Ottawa, November-December, 1975), p. 24.

19. SIPRI, n. 14.

PNEs have thus been confined to the domains of NWS as it will be treated as a threshold act if conducted by NNWS.

The Dichotomy of Perceptions

The establishment of the regime has unleashed bitter theoretical and political debates among the elites of nuclear 'haves' and 'have-nots'. This dichotomy of perceptions often reflects the unequal nature of the present international system to a large extent. It also mirrors the diverse socio-economic philosophies and differing value systems among the elites of the two sides. The elite perception of the developing world is deeply rooted in historical factors like anti-colonial struggle and, of late, the struggle against neo-colonialism.

On the other hand, the perceptions of the elite in the developed countries, especially in the North, are based on narrow organisational interests. It often symbolises an anti-empirical and unhistorical frame of mind.[20] The elite perceptions of the NWS often overstress the need for stringent external controls and vigilance against the NNWS as the best way to prolong the lead time for acquiring weapon making capability. Very few attempts have been made to study the internal factors which restrain the Third World

---

20. Ashok Kapur, "Nuclear Proliferation in the 1980s," International Journal (Ottawa, Summer 1981), p.537.

countries from going nuclear. In many threshold countries, powerful anti-nuclear lobbies have influenced crucial decision-making on the nuclear option, though external restraints and controls do affect their perceptions to some extent.

Restraining factors in the regional milieu are also ignored. In fact regional factors play a major role in the decision-making process of a potential nuclear state. A nuclearised Argentina or Brazil will upset the regional status quo in Latin America, perhaps detrimental to the interests of the neo-nuclear power. In the South Asian context, decision makers in both India and Pakistan have to consider the would be responses of the adversary if one nation goes for the nuclear option. Antagonising an immediate neighbour may not be in the national security interests of a medium power which would like to emerge as a regional actor or rather aiming at a global role to play.

Using the parameters given below, one can see major countries in the trigger list have more disincentives than incentives for attaining weapon building capability.

Influencing Factors on Decision Making Process in the Threshold State

External Factors	Internal Factors	Economic Factors
NPT regime, Supplier controls, Super power policies.	Political leadership, Opposition parties, Civil servants.	Cost and effect considerations, Defence outlay, Foreign exchange position.

Ideological Factors	Regional Forces
National value systems, General political philosophy, Foreign policy postulates.	Possible responses from neighbouring countries, Bilateral, multilateral and regional treaties, Regional economic and political cooperation.

Technological Factors

Supporting industries, Enrichment capability, Fuel storage capability, Weapon building capability, State of early warning and control systems, State of command, control and communication systems (c3), Supporting doctrine of use or non-use.

India and Pakistan

The general technological state allows the two countries a weapon building programme within a fixed period but fears of external threats in the form of stringent conditions on supply of materials for the nuclear energy programme inhibits the countries from going nuclear to an extent. The abrupt withdrawal of Canadian support for the energy programme and the American reluctance to supply materials in time, have to a great extent been the reasons for the slow growth of India's nuclear energy programme. A nuclear weapon decision will have its own counter effects in the form of disruption of supplies especially for future programmes. More than all these reasons, India's nuclear weapon building programme will depend on its domestic pressures accentuated by a Pakistani weapons' programme. Likewise Pakistani nuclear weapon building programme

will have its decisional bearing on the Indian moves and the domestic policies of the military regime in the near future.

Argentina and Brazil

The decision to go nuclear by Argentina and Brazil will greatly depend on regional factors. A threat to its security even from Britain as happened during the 1982 Falklands war, may induce Argentina to gain more clout by acquiring a minimal nuclear power. But such an action will foment regional rivalries especially with Chile and Brazil. Brazil and Argentina are the two leading countries of Latin America who refused to accept fullscope safeguards in their nuclear facilities. Both the countries are steadily acquiring capabilities for reprocessing and storage of plutonium. But these two regional actors, despite pressures within their ruling elites, may not go for a drastic step that would upset the regional status quo.

Taiwan and South Korea

Both Taiwan and South Korea have regional threats from China and North Korea respectively. The strength of American nuclear umbrella is gradually fading out in the Pacific and this would of course decide the nuclear options of these countries. But regional constraints do prominently

figure in the nuclear option of the two countries. Fears of pre-emptive attacks may be a disincentive. Also the small size of these countries will make them more vulnerable to a nuclear attack. So even acquiring a minimum deterrent capability would have its own counter-effects for them.

Incentives and Disincentives

Protagonists of the current nuclear proliferation regime diagnose the incentive-disincentive pattern using the same barometer of power which underlines super-power relations. The modernisation programmes of the developing countries are underplayed as unimportant factors in the nuclear proliferation debate. Countries in the so-called "worry list" are mainly in the South with ambitious economic development programmes. Acquisition of nuclear weapons capability, according to some analysts, would greatly enhance the power base of these countries, both in regional and global levels. Acquiring nuclear weapons, according to them, is not an act of desperation; it is an act of "arriving" in the nuclear front as one has arrived or arriving in the other fronts of national power and success.[21] Says another study: "Nuclear weapons can increase the national hubris and self confidence of the possessor, thus emboldening its general international behaviour. France's nuclear force

---

21. Greenwood, n.11, p.16.

though minute compared with those of the two super powers, restored a measure of French self-respect in the wake of imperial losses and fed the elan with which Charles de Gaulle manoeuvred politically between Washington and Moscow in the 1960s."[22]

The basis of these arguments, however, is mostly based on the incentive factors which led the present nuclear weapon powers to acquire the capability and hence, could not be placed in its entirety to the Third World context. If a Third World country, in its urge to become more powerful, goes for nuclear weapons, instead of enhancing its power base, would invite the wrath of neighbouring countries. A nuclearised Pakistan will inevitably become a threat to the regional security of South Asia and even West Asia. Acquisition of nuclear weapons by India may also have the same effect which will induce some of the countries in the Islamic fraternity to go nuclear. Nuclearisation by one country can result in greater conventional arms race too as sophisticated delivery systems and defensive weapons are required to counter the threat posed by a nuclear adversary.

A mere possession of some crude weapons without supporting delivery systems, technological and economic

---

22. David C. Gompert, "Approaching the Nuclear Future," in David C. Gompert and Others, Nuclear Weapons and World Politics: Alternatives for the Future (New York, 1977), p.3.

infrastructure and a logical doctrine may invite other ambitious neighbours to resort to pre-emptive strikes aimed at eliminating the vulnerable force that will conversely bolster intra-regional antagonisms. Is it then a rational course for the Third World countries to pursue? Moreover, many Nth countries are aware of the fact that they would be third class nuclear powers in the global nuclear context and would have no effective deterrent capacity against either the super powers or the secondary nuclear powers for many years or decades.

Global and regional threats to Third World security have to be seen in the right perspective if an incentive analysis has to be empirical. The nuclear threat posed by the NWS especially, super powers, will, to a great extent, decide the nuclear option of many threshold states. Global challenges are assuming wider dimensions with the two super powers stepping up their efforts to increase their spheres of influence. New areas of tension have been created artificially, thereby threatening the security of many developing countries. Increasing super power presence in the Indian Ocean and the continuance of Soviet troops in Afghanistan will have bearings on future Indian and Pakistani nuclear options. The increasing militarisation of Japan and the U.S. nuclear presence in the Pacific may induce the two Koreas to go nuclear. Destabilisation of Central and Latin

American regional security by the super powers may hamper the prospects of achieving a complete nuclear free-zone in Latin America where Tlateloco Treaty already forbids adherents from going nuclear.

Clashes of regional interests and territorial disputes are pronounced in many prospective proliferation areas. The major causation for nuclear proliferation in South Asia would be the rivalry between Pakistan and India and China and India. Acquisition of nuclear weapons by the two potential proliferators viz. India and Pakistan might equalise the strength of the two countries in nuclear terms, though, with regard to conventional forces, India will remain superior. India's continuing fears that it is vulnerable to Chinese nuclear attack would prove an incentive for its nuclear choice. A growing number of Indian strategists believe that a minimum nuclear deterrent capability would greatly enhance the defensive strength of India vis-a-vis China though the former has increased its conventional strength appreciably over the years.

The survival factor has to be taken into consideration for any kind of incentive analysis. The urge to attain self-sufficiency in nuclear technology by the newly emerged nations is to be viewed from the angle of survival, stability and status, the three postulates of a nation's foreign policy. Disruption of assured and agreed supply of nuclear

fuel and spare parts has undermined the credibility of supplier countries. This may provide another incentive to some developing countries to show more national assertiveness through attaining nuclear weapon capability.

The supplier countries' efforts towards disincentives in the form of denial of technology and equipment especially related to sensitive parts for the reprocessing of spent fuel may maintain the lead time barriers against proliferation. However, this approach does have only a short term value as the technological improvisation programmes of many threshold states reach maturity within 10 to 15 years. Sanctions in the form of embargo of assistance and cancellation of supplies will further induce the Third World countries to reach nuclear adulthood.

The Security Dilemma

Besides being treated with second class status in the global nuclear bargain, neither the two super powers nor the other nuclear weapon states have shown any willingness to provide the Third World countries adequate, credible and positive assurances against nuclear threat or attack. Three NWS have not yet proclaimed a 'no-first use' pledge, which itself is a negative security guarantee. As long as there is no clear cut security assurance against nuclear blackmail or real use, the security of the Third World is at the mercy

of the nuclear giants. It has been an established dictum ever-since the advent of the nation state system that no nation has permanent friends or foes. This is more explicit in super power relations since national interest for them have a global angle much wider than the interests of a middle or small power.

Even allies are sceptical about the credibility of security assurances by the two super powers. The motivation behind the creation of a minimum deterrent by France was its doubts over the availability of the U.S. nuclear umbrella against a Soviet attack in time. William Epstein has rightly put it: "If the United States might think twice before risking the existence of Washington or New York for the sake of Paris or Rome, how many times would it think before risking them for New Delhi or Tokyo?"[23]

The question of security assurances was one of the major themes in the NPT review conferences in 1975 and 1980. However, the attitude of the two super powers on this issue was negative and they rejected various proposals suggested by Third World countries on specific security assurances.

The Energy Choice

Apart from the security dilemma, developing countries have to face a more crucial question: how to cope the growing

---

23. Epstein, n.13, p.136.

energy needs with the increasing prices of fossil fuel and the indiscriminate controls on nuclear energy production. Nuclear energy has been accepted as a viable and more relevant alternate energy source in the total energy mix of any developing society. The per unit volume in other renewable energy sources like tidal, solar, geothermal and biomass is rather low. Therefore, harnessing these sources require huge expenses especially on installation and execution. Research findings are yet to show viable results to harness many other alternate sources. Despite the higher capital costs of nuclear plants, which may be as much as twice the cost per kilo watt installed of oil plants, the large differential fuel cost savings compensate and exceed the capital costs over a rather short period in the operating life of the plant.[24] Hence nuclear power offers vast potentials for the Third World countries in their energy development. The need for developing countries acquiring nuclear energy capabilities is further explained by the sheer fact they have to have achieved within twenty to thirty years the technological stage that the developed countries took over a century or more to reach. Otherwise, the former will miss the second industrial revolution taking place in the realms of nuclear and space technologies.

---

24. K.A. Effat, "The Role of Nuclear Power in Development," in Karl Kaiser ed., Reconciling Energy Needs and Non-Proliferation: Perspectives on Nuclear Technology and International Politics (Bonn, 1980), p.38.

With the quadrupling of oil prices after the 1973 oil crisis nuclear power has gained wider importance in the energy choice of non-oil producing countries. The following World Bank analysis will provide an idea on the production costs of various sources of electrical power generation and the advantage of nuclear power in reducing production costs (see Table 1).

Nuclear energy forms a major part of the total energy production of the developed world. The total world electricity production from nuclear source in 1982 was only ten per cent.[25] At the end of 1982 there were 293 reactors in operation in 24 countries with a total installed generating capacity of 169,929 MW.[26] As for the developing world merely four countries were running seven nuclear power plants with a combined capacity of 1895 MW.[27] This accounts for only a little over one per cent of the world nuclear power production. While developed nations like France and Soviet Union produce 30 to 50 per cent of their electricity demands through nuclear plants, India, a pioneer in nuclear energy programme, produces less than two per cent of its energy requirement through the nuclear means.

---

25. IAEA, Annual Report, 1982 (Geneva, 1983), p.27.

26. Ibid.

27. Ibid. The four countries are: Argentina, Brazil, India and Pakistan.

Table-I

OIL IMPORTING DEVELOPING COUNTRIES: COMPARATIVE COSTS OF POWER GENERATION

Based on Various Types of Fuel

Generator Type	Investment cost 1980 US dollars per Kw. installed[1]	Fuel cost 1980 US/Kwh	Power cost 1980 US/Kwh
Hydro-Power-Large, High Head,	1100	n.a.	2.4
Low head, Mini-hydro	3500	n.a.	12.7
Diesel-large, heavy oil fuel coastal location	1000	4.2	6.7
-Small light oil fuel inland location	800	10.9	13.2
Steam - Large, gas fired	800	0.4	2.4
- Large, coal fired	1000	2.7	5.2
- Large, oil (imported) fired	800	5.5	7.5
- Small, heavy oil fired inland location	1400	7.3	11.4
- Small, wood-fired	1500	3.0	10.0
Geothermal - Dry steam field	1400	n.a.	3.0
- Wet steam/hot water field	2800	n.a.	6.0
Nuclear - Large Multiple units	1600	1.0	5.1
- Single small united	2200	1.0	7.4
Solar photo voltaic	20,000-30,000[2]	n.a.	100-300
Wind generator	5,000-15,000[2]	n.a.	30-100

n.a. - not applicable

1. Investment cost includes cost of transmission and distribution.

2. Both solar energy and windpower are intermittent energy sources which require storage to make energy available to demands at all times. Investment costs given above are systems costs with storage included.

Source: World Bank Report, "Energy in Developing Countries," (Washington D.C., 1980).

Table-II

NUCLEAR POWER REACTORS IN OPERATION AND UNDER CONSTRUCTION AT THE END OF 1982

Country	In operation		Under construction		Electricity supplied by nuclear power reactor in 1982	
	No. of units	Total MW(e)	No. of units	Total MW(e)	Tw.h(e)	% share of total
Argentina	I	335	2	1291	1.75	4.85
Belgium	6	3473	2	2012	14.52	30.29
Brazil	1	626	2	2490	0.05	0.04
Bulgaria	4	1632	2	1906	9.93	29.16
Canada	14	7278	9	6310	39.99	10.55
Cuba			I	408		
Czechoslovakia	2	762	6	2520	n.a.	
Finland	4	2156			15.83	42.42
France	32	23355	27	30200	103.06	38.70
German D.R.	5	1694			n.a.	
Germany F.R.	15	9831	12	13155	60.05	17.40
Hungary	I	408	3	1224	n.a.	
India	4	809	4	880	2.06	
Italy	3	1232	3	1999	6.39	3.63
Japan	25	16587	11	10289	100.01	19.45
Republic of Korea	2	1193	7	6227	3.55	7.33
Mexico			2	1308		
Netherlands	2	501			3.70	6.43
Pakistan	1	125			0.07	0.40
Philippines			I	620		
Romania			2	1320		
South Africa			2	1842		
Spain	4	1973	11	10156	8.54	7.78
Sweden	10	7330	2	2100	37.30	38.65
Switzerland	4	1940	I	942	14.39	27.58
USSR	40	17219	31	30486	n.a.	
U.K.	32	6462	10	6052	38.73	15.21
USA	80	62376	61	67228	279.46	12.10
Yugoslavia	I	632			n.a.	
WORLD TOTAL	293	169929	214	202966		

Source: IAEA Annual Report 1982, International Atomic Energy Agency GC (XXVII) 684 Geneva (August, 1983).

While nuclear production rate registered a marked growth except during the last few years in the affluent world, the Third World countries are yet to catch up with their estimations. Compared to the dynamic growth in the West and the Eastern Bloc, nuclear projects in developing nations have been minimal. "Most debt-strapped developing nations cannot afford the huge start-up costs of importing or developing nuclear technology. Brazil and Mexico, for example, have had to delay or scrap nuclear projects already in the works. Meanwhile, Western governments are hesitant about selling sophisticated technology to Third World countries because they fear it will be used to make nuclear weapons rather than generate power".[28] This itself explains the discriminatory nature of the regime and the inhibiting or rather distrustful approach of supplier countries to the peaceful nuclear programmes of the developing world. The inequitous nuclear order has not only hampered Third World's nuclear energy strategy but also magnified the North-South imbalances.

Future of the Regime

The non-proliferation regime was built on the assumption that the technological gap between the developed and less developed states in the field of nuclear energy can be used

---

28. Newsweek, 13 February 1984.

to create the most favourable conditions for preventing proliferation. The control of exports approach presupposing a monopoly or oligopoly of nuclear technology and raw materials creates the foundation of such an orientation.[29]

The current non-proliferation strategy is primarily based on a policy of denial of technology. A pertinent question arises in this context. How long could technology be kept in monopolistic hands? Or how long could it be locked up and denied? Technology is bound to spread; so is nuclear technology. Even the IAEA philosophy of regulated transfer of nuclear technology has its point of saturation.

The future of the current nuclear non-proliferation regime is doubtful as many Third World countries are attaining adulthood in nuclear technology. India is a clearcut instance in this trend. India has already graduated in the process of fabricating a plutonium-made devise and its explosion. It has also shown the world its ability to design and construct a nuclear power plant using nearly cent per cent of indigenous skills and materials with the commissioning of the first unit of the Madras Atomic Power Plant (MAPP).

---

29. Karl Kaiser, "Nuclear Energy and Non-Proliferation in the 1980s," in Kaiser, n.24, p.24.

Moreover, the cohesion of alliance systems is fast depleting. As emerging regional powers pull out of their traditional orbits around the super powers, it might become increasingly difficult to harmonise their nuclear postures with the East-West nuclear system. As security relationships become less rigid, as hierarchical power structure erodes, former client states will enjoy greater freedom of action.[30]

Spread of uranium enrichment plants to NNWS in the near future will pose serious threat to monopolistic controls over it at present. The fragility of the regime was exposed when Israel destroyed Iraq's OSIRAK research reactor complex in June 1981 in a pre-emptive attack. It was a clear cut instance of the fundamental weakness of the regime to check a paranoid state from attacking a peaceful nuclear energy programme of a country which has accepted full-scope safeguards.

The nuclear weapon building programmes of Israel and South Africa have also undermined the strength of the regime. As the nuclear programmes of these countries have the overt and covert support of some Western powers, the apprehensions of the other regional powers remain valid. Finally, the greatest threat to the non-proliferation

---

30. Greenwood, n.11, p.4.

regime stems from the failure of nuclear powers to reach meaningful arms control measures. Years of negotiations over the levels and testing of strategic arms have failed to produce any substantial results which could allay the fears of the NNWS. "It is, therefore, a blatant affront to the non-nuclear states for the super powers to moralise about the dangers of proliferation, when the cargo of a single missile bearing submarine has more destructive potential than all potential proliferants combined could amass in the next decade".[31]

Concern over the spread of nuclear weapons is justifiable provided it takes into account the threat in right perspective. Narrowing down the threat to an imaginative level without considering the dichotomy between capability and intention would leave the analysis unempirical and unrealistic. If capability itself were the driving force behind proliferation, West Germany, Japan, Italy, The Netherlands, Belgium and Sweden would have acquired nuclear weapons long ago.[32]

The current nuclear non-proliferation regime overemphasises the technical aspects instead of political considerations. Disincentives are generally explained at

---

31. Ibid., p. 10.

32. Richard Betts, "Paranoids, Pygmies, Pariahs and Non-Proliferation," Foreign Policy (Spring, 1977), p. 163.

the technical level rather than at the political. The security and technological aspirations of the developing world are often forgotten. The most valuable and enduring disincentive would be the continuance of detente between the super powers and lesser involvement in the internal affairs of Third World countries.

Firstly, a pledge of no-first use by all nuclear weapon powers would considerably enhance the security of the Third World countries. This pledge has a political and moral value as it de-emphasises the use of nuclear weapons. Secondly, the United Nations could play a crucial role in alleviating the security fears of the Third World states. The collective security provisions of the U.N. Charter could be strengthened adding provisions to face potential and real nuclear threats. A restriction on veto power of the aggressor should be formulated which would automatically be implemented when a nuclear power attacks a non-nuclear weapon state.

Thirdly, multilateral treaties on positive and negative security guarantees should be signed so as to neutralise the grave threats of a nuclear attack. Fourthly, regional security measures could be strengthened through bilateral agreements and pledges of non-agression.

Fifthly, crisis management mechanisms and confidence building measures should be revitalized.

Sixthly, NPT should be amended suitably taking into consideration the aspirations of the developing world. The present cut and dry document needs more flexibility in its application and the ambiguous nature of proliferation should give place to more systematic and concretised formulations.

Lastly, a drastic reduction of super power weapons could be reached through negotiations. This would reduce super power tensions and would narrow down the importance attached to nuclear weapons in the present international system.

Chapter II

THE NUCLEAR WEAPONS OPTION OF INDIA: INTENT, CAPABILITY AND CONSTRAINTS

The nuclear policy of India is related to the country's general foreign policy framework based on historical factors the imperatives for national assertiveness, security and strategic considerations and the urge for technological independence. The aspiration for building an autonomous nuclear capability has often been the focal point of anti-proliferation writers in the West to characterise India as the most potential state in the nuclear proliferation chain. This sceptic view is often based on India's refusal to accede to the Non-Proliferation Treaty (NPT), the adoption of the Sarabhai Nuclear Energy and Space Programmes and the 1974 peaceful nuclear explosion (PNE) which lead many to draw the conclusion that "for years India has been quietly but steadily moving towards introducing nuclear weapons in to her arsenals".[1] One writer considers the 1974 explosion as an event of transcendental importance. According to him, "it breached the walls of the nuclear club and once again raised the spectre of the Nth country problem".[2]

---

1. T.J. Frank/Bray and Michael L. Moodie, "Nuclear Politics in India," Survival, Vol. XX (May-June 1977), p. 111.

2. William Epstein, The Last Chance: Nuclear Proliferation and Arms Control (New York, 1976), p. 285.

The Indian assertion that the explosion was nothing more than a test conceived and conducted exclusively for peaceful purposes[3] has been questioned by even an authority like George Quester who believes that the PNE was only "a label for what amounted to a weapons programme, making a travesty of the civilian military distinction which is really a disservice to the world wide cause of arms control".[4] But an Indian nuclear expert sees it in a different view. "By carrying out the PNE and not claiming any special privileges, India is attempting to denigrate the special mystique developed around nuclear weapons."[5] In other words, by proclaiming the peaceful nature of its nuclear explosion India defied the logic of NPT, which refuses to countenance any distinction between peaceful and military nuclear explosions, in case they are conducted by non-nuclear weapon states (NNWS).[6]

Though ambiguity shrouds the real Indian intentions, India still stands on the same policy framework established

---

3. Rikhi Jaipal, "The Indian Nuclear Explosion," International Security (Spring 1977), p. 44.

4. George H. Quester, "Enlisting Post-1974 India to the Cause of Non-Proliferation," in John W. Mellor, ed., India: A Rising Middle Power (New Delhi, 1981), pp. 197-98.

5. K. Subrahamanyam, "India's Nuclear Policy," in Onkar Marwah and Ann Schulz, eds., Nuclear Proliferation and Near Nuclear Countries (Cambridge, 1975), p. 144.

6. Hedley Bull, "Wider Still and Wider: Nuclear Proliferation 1950-1975," International Perspectives (November-December 1975), p. 24.

after the explosion. A decade is passing since India showed to the world its capability to fabricate and explode a nuclear device using the implosion technique. Though, there are occasional reports that India is showing interest in the 'backend' of nuclear fuel like diverting the spent nuclear fuel rather than going for 'front end' methods like mining, processing and fabricating its own uranium fuel elements[7] there is no substantial published evidence that India has any operational nuclear weapons capability.[8] At the official level too Mrs. Gandhi's Government has declared that India will not produce nuclear weapons even if Pakistan does so.[9]

However, the prospects of India taking a leading role in nuclear proliferation in South Asia cannot be outrightly ruled out with the emergence of new power equations and strategic configurations in the subcontinent. Widely publicised intelligence reports of the closeness of the Pakistani military regime to the acquisition of nuclear explosives or weapon capability combined with very deep concerns over the strategic connection between this development and the F-16s obtained from the U.S. have strengthened

---

7. Washington Post, 20 February 1983.

8. Richard P. Cronin, "Prospects for Nuclear Proliferation in South Asia," Middle East Journal (Autumn, 1983), p.600.

9. See Report on Mrs. Gandhi's Press Conference in Athens, Times of India, 24 September 1983.

the trends in India working against self-imposed and, to some extent, externally induced restraint with respect to nuclear explosions.[10] The proceeding analysis is purported to focus on India's nuclear options, given its impressive technological capabilities and experience and national security imperatives.

India's Case Against the Non-Proliferation Regime

Ever since the non-proliferation regime was established a major plank of the Indian nuclear strategy was to pinpoint the lacunae of the regime and its colonial overtones. India, thus took the lead among the Third World countries in attacking the regime on account of its technological capabilities and political convictions.

The Indian case against the regime is primarily based on the reasons that it obstructs; (a) political independence, (b) technological self-reliance, and (c) economic development and hinders keeping open its strategic options. From the very beginning the Indian position on nuclear safeguards based on unequal treaty systems, was a convincing one that it would reinforce the already unequal international system and divide the world into nuclear 'haves' and 'have nots'. Rikhi Jaipal, India's former Permanent

---

10. N.Ram, "India's Nuclear Policy: A Case Study in the Flows and Futility of Non-Proliferation," IDSA Journal, Vol.XIV (April-June 1982), p.448.

Representative to the United Nations stated India's case against the non-proliferation regime: "It is the nuclear Brahmins who advocate the maintenance of the purity of their use at the expense of the lesser breed. It is they who preach that the other states should be required to place all their nuclear facilities and reactors under strict international safeguards and should not be allowed to conduct PNEs, while they themselves remain free to manufacture nuclear weapons, conduct tests, and develop reactor technologies."[11]

The position is clear; India will not subscribe to the view of the nuclear weapon states (NWS) that nuclear weapons are safe in their hands and are meant for deterrence, while the technology's spread in the form of power reactors will enable NNWS to go for nuclear weapons. The notion that some states are inherently more responsible than others is unacceptable to India.[12]

India's position is all the more precarious as its nuclear capabilities have reached a stage when a take off is possible in the civilian sector as well as in the military application of the technology. Hence India could not agree to an international regime which would obstruct

---

11. Rikhi Jaipal, n.3., p.47.

12. Ibid.

the country developing its own national capabilities in the field. "The feasibility of the nuclear laws formulated by certain countries by virtue of their possession of nuclear weapons and to make use fully the technological benefits accrued from the nuclear technology, while preventing other countries which are within the technology from aspiring it, is of course unacceptable to India."[13]

India's disarmament position is thus, a wider one. It calls for a total freeze on all nuclear weapons production and eventual disbanding of the weapons from the earth. In such a state, all nuclear facilities in the world would become peaceful and the NWS would not have any reason or pretext for not accepting the same system of international safeguards which they seek to impose on NNWS like India in relation even to their peaceful, civilian nuclear energy programmes.[14]

India cannot accept a system of international safeguards in the field of nuclear energy, which are not applicable to a few states just because they chose to bend nuclear energy to weapons purposes before the cut off date prescribed in the NPT - 1st January 1967. If the NPT position is recognised, it would be tantamount to accepting the notion

---

13. Subrahamanyam, n.5, p.125.

14. M. Rasgotra, "Prevention of Nuclear War," Address at the U.N. Regional Conference for World Disarmament Campaign (New Delhi), 24 August 1984.

that the nuclear weapons fabricated by an earlier group do have a life giving or peace making quality in them.[15] In the Indian view nuclear exclusivity is tantamount to nuclear anarchy on the part of a few nuclear weapon powers. By exempting the NWS from any scrutiny or control the system is in fact promoting the nuclear arms race.[16] According to India, inequity in the nuclear field would legitimise the nuclear weapons of the big powers thereby threatening the fabric of international justice. The position clamours for reforms in the hierarchical structure of international system.

India's opposition to the non-proliferation regime is also in consonance with its Non-Aligned posture of treating the major issues on merit while not yielding to the whims and fancies of the super powers. The Non-Aligned foreign policy posture demands greater autonomy in decision making and larger national facilities so that dependency state can be reduced considerably if not totally eliminated. This does not preclude cooperation which is mutually advantageous and without strings attached to it. Hence in the nuclear field, greater autonomy demands more freedom in decision making and wider international cooperation especially in areas of technical knowhow and supply of scarce materials. Accepting the nuclear safeguards completely would thus,

---

15. Ibid.

16. Ibid.

entail permanent dependency which may affect policy stances on crucial international issues affecting the interests of one super power or the other.

The economic rationale is all the more convincing. Though the PNE benefits are yet to be harnessed on a wider scale throughout the world, India hopes to make use of this technology in the future for its economic development. India does not accept the Western logic that it is possible to have PNEs for the NWSs that are parties to the NPT. India holds the view that if there is no such thing as PNE, then the advanced industrialised states themselves should denounce it first and stop conducting such explosions.[17]

Another apparent reason for the Indian rejection of the non-proliferation regime is the debilitating effect of the regime's rules and regulations on the economic growth of the developing countries. This conviction is based on the fact that nuclear energy is increasingly becoming a major source of power generation. A country like India, which spends a major chunk of its foreign exchange on the import of oil, nuclear technology would be a welcome alternative source of energy.

Linked with all these reasoning is the fundamental postulate of the Indian foreign policy, i.e. to exclude

---

17. Ashok Kapur, India's Nuclear Option: Atomic Diplomacy and Decision Making (New York, 1976), p.203.

economic imperialism in all manifestations. Restructuring the outmoded global economic relations is one of the Indian demands in all major world forums on money and economy as well as at the United Nations and Non-Aligned meetings. The decision to oppose the regime has its strong nationalistic implications too. It forestalled any international control on India's future nuclear weapons building option. Treaty hurdles would have made the option very difficult if not impossible.

THE NUCLEAR WEAPONS OPTION

Of late there has been intensive debate in India on whether the country should go for a nuclear weapons option in view of reports that Pakistan has acquired the reprocessing capability and marching towards building a nuclear weapons programme. In fact the debate can be perceived as an ongoing one since the Chinese nuclear explosion in 1964. After the Pakistani plans were revealed by Western as well as independent sources, there is a general agreement among the Indian elite excepting an infinitesimal minority that in the event of Pakistan acquiring nuclear capability, India will have no choice other than building a nuclear deterrent.[18]

Thus one can see Pakistan as the focal point in current debates on the issue. Besides the Pakistani factor

---

18. Krishan Kant, "Should India Go Nuclear?" IDSA Journal, Vol.XIV (January-March 1982), p.308.

other issues are also put forward by the pro-bomb lobby over the years for building a powerful nuclear force. The main arguments are generally based on the elite's perceptions of security threats, global and regional strategic environment, political and economic advantages that the nuclear weapons would bring and the role, status and power that India could play in the international system.

The Strategic Environment and Security Dilemma

India's immediate strategic concerns are from Pakistan and China, though the super power rivalry in the Indian Ocean is also conceived as a threat of late. The threat perception about Pakistan is based on an intricate set of fears which are historical and deep rooted in the Indian psyche. Having fought three major wars with Pakistan, India would naturally view with suspecion any moves by that country to acquire new weapons, new technology and new friendships with other countries. After the 1971 war the power equation in the sub-continent has changed considerably in favour of India with its massive geographical size, four fold conventional strength and a fast developing technological and industrial infrastructure compared to Pakistan. Growing concern that Pakistan is catching up with India with the acquisition of sophisticated weapons and delivery systems from the United States and China, has increased apprehensions that unless India makes immediate decisions, its strategic superiority will be

challenged in the near future. An Indian pro-bomb lobbyist has commented that Pakistan that was 20 years behind India in 1971-72, has galloped to a point where it is five years behind India and is about to achieve a nuclear weapon building capability.[19]

In the global strategic alignments too, Pakistan is becoming an important actor ever since the Afghanistan crisis started in 1979. The Afghan crisis gave Pakistan a new role in the US efforts towards building strategic superiority in the region. The Pakistani military regime has also shown inclination towards becoming a frontline state against the Soviet penetration further deep in the Gulf and West Asia. The Indian concern in this regard is that Pakistan may become the next candidate for selective nuclear proliferation as in the case of Israel and South Africa by the Western powers.[20]

A situation of nuclear asymmetry in the sub-continent in favour of Pakistan would be unthinkable for India which would neutralise the kind of conventional superiority India might hope to enjoy by early nineties.[21] It would also give Pakistan an opportunity to grab the disputed Kashmir territory by holding out a nuclear threat. "The impact of

---

19. Ibid., p.307.

20. U.S.Bajpai, ed., India's Security: The Politico-Strategic Environment (New Delhi, 1983), p.75.

21. Ibid., p.77.

such a threat on the Indian population especially of Punjab and the Armed Forces can be well forseen as that of continual fear and morale losing".[22]

Pakistan's newly acquired conventional clout is viewed by India with suspicion. Pakistan's argument for arming - to face the Soviet threat from Afghanistan - is less convincing for India. India fears that its newly acquired F-16 deep penetration fighter bombers could be modified as delivery aircraft for nuclear weapons.

The China factor is another major argument for the pro-bomb lobby. Though there is a feeling that China's nuclear might is less dangerous for India than that of Pakistan, the 1962 war and the psychological effects it created in the Indian mind loom large in the threat perception of any Indian analyst or policy maker. China's attainment of the ICBM capability signifies the fact that now its nuclear weapons can reech any major North Indian city. China is also aspiring to achieve a blue water navy with the capability of Submarine Launched Ballistic Missiles (SLBMs), extending its naval presence to Indian Ocean and the Pacific. Moreover, China has already deployed IRBMs and MRBMs at Nagchu in the Tibet region targetted towards the Soviet Union. With any change in the Chinese perception they can be swung around to vital Indian targets.[23]

---

22. Ibid., pp.77-78.

23. Krishankant, n.18, p.323.

A Western analyst wrote that India's Armed Forces, with its current modernisation programmes, will become the second most powerful in Eastern Asia after the Soviet Union. "India's armed superiority over China comes partly from being a generation ahead in science and technology, including metallurgy," according to him.[24] With a strong conventional force capability supported by a minimum nuclear deterrent to be built India can face any possible Chinese threat. The Chinese threat will not subside until the territorial dispute is amicably settled.

Yet another concern of India is the super power rivalry in the Indian Ocean and the growing Indian concern to protect its maritime interests. Any developments in the Indian Ocean would affect the security spectrum of India as in the past all colonial conquests of the subcontinent came through the Ocean. Nuclearisation of the Ocean is all the more threatening to the maritime security of the country as to protect the 3000 mile long coast line would be a hazardous task. SLBMs, both medium range and intermediate range can reach most of the Indian territory if a nuclear power turns against India and decides on such a course.

---

24. Russel Warren Howe, "India's Armed Forces: An Outsider's Assessment of Growth," The Statesman (New Delhi), 25 April, 1983.

Nuclear Weapon as a Symbol of Power and Status in the International System

Nuclear weapons capability, it is argued, would greatly enhance strategic autonomy providing India with a wider range of diplomatic choices.[25] The question of India's role and status in the present international system would loom large in any decision to go for a nuclear weapons option. Should India with its continental size, large population and vast resources remain as an object power in the international system or should India carve out a position of its own in the regional as well as global power structure? "Should India place itself in the position of Pakistan, Bangladesh and Indonesia and determine its role?"[26]

India's role as a middle power has been recognised in the West after the Bangladesh war of 1971. But still the general impression about India is that of a "primitive, hopelessly poor and dependent giant".[27] Nuclear weapons would change the global view on India as happened in the case of China.

One of the most important postulates of India's foreign policy is to keep the South Asian region off from

---

25. Bray and Moodie, n.1, p.112.

26. Krishen Kant, n.18, p.320.

27. Richard K. Betts, "India, Pakistan and Iran," in Joseph A. Yager, ed., Proliferation and U.S.Foreign Policy (Washington, 1980), p.118.

outside interference. The Indian position is that the management of the affairs of the region should be the responsibility of the powers of the region without outside intervention.[28] The credibility of this posture can be preserved only when India attains a nuclear deterrent capability and to be able to assure the security of the region from any external threats. It could be further argued that India's traditional role as the 'system builder' in the region would be strengthened with the acquisition of nuclear weapons capability. A nuclearised India according to an African expert, is an India with additional credentials to help control the destiny of 'South Asia as a whole'.[29] Nuclear clout also could help India to strengthen the Non-Aligned movement. "As a nuclear power, India would for the first time be in a position to function as a truly Non-Aligned state as she would no longer be dependent on either of the super powers for the major part of her retaliatory capability".[30] In fact, a large number of Non-Aligned and developing countries welcomed the 1974 explosion as "a technological achievement demonstrating

---

28. Baldev Raj Nayar, American Geopolitics and India (New Delhi, 1976), p.62.

29. Ali A. Mazuri, "Africa's Nuclear Future," Survival (March-April 1980), p.77.

30. Ravi Kaul, India's Strategic Spectrum (Allahabad, 1969) p.192.

that even a developing country could acquire the knowhow to successfully accomplish the sophisticated task of exploding an underground nuclear device, which had for a decade been the exclusive preserve of the great powers".[31]

The focal point of the pro-bomb faction in the Indian elite is that unless India develops its own strategic capability the gap between its policy posture and the real implementation would widen over the coming years. Baldev Raj Nayar, an analyst of Indian foreign policy, considers that "nuclear abstinence would make India's survival hostage to foreign powers, it would court failure in the endeavour to achieve India's long held aspiration to be an independent centre of power. It would also lead to nuclear finlandisation".[32]

Over the years Indian policy makers have been attempting to make the country's voice felt in the international scene, mainly through the United Nations, the Non-Aligned and the Commonwealth forums. These efforts have reached a new stage with India assuming the chairmanship of the Non-Aligned movement in 1983 for a period of three years.

---

31. Epstein, n.2, p.228.

32. Baldev Raj Nayar, "Regional Power in A Multipolar World," in John W. Mellor ed., India: A Rising Middle Power (New Delhi, 1981), p.179.

There has also been a tendency on the part of India to play a rebellious role especially in nuclear politics but in other areas of arms control and disarmament negotiations, India has taken a moderate role. Often with a moralistic fervour, India voices its concern over the escalating arms race and demands total freeze and a ban on nuclear weapons. However, the Indian position on disarmament has never received a wider appreciation in the super power arms negotiations due to the lack of force behind it. "With the grave imbalance between the diplomatic influence India sought and the capabilities it possessed, its claim to a subject role could not but arouse resentment and hostility in those whose own power and influence would as a consequence be adversely affected".[33]

The Chinese nuclear clout is often quoted as an example of how nuclear weapons, make a nation prominent in international politics. When China started its weapons programme its per capita income was less than what India has now. The nuclear weapons, undoubtedly gave China a new role and status in international politics as a great power. Its role in the Asian continent and the world has increased steadily and the United States, a traditional foe of the

---

33. Nayar, "A World Role: The Dialectics of Purpose and Power," ibid., p.133.

Peoples Republic of China has to mend its differences with it to gain its support against the Soviet Union. According to a pro-bomb writer if nuclear weapons have given China a strategic autonomy, the same India could also aspire for. "China was behind India in nuclear technology in the very beginning of its programme and also still lags behind in the civilian nuclear programme. But it has surpassed India in nuclear weapon technology and it was with this advance it made its debut in international affairs when Nixon had to say that China with a population of 800 million and the nuclear weapons could not be ignored."[34]

Nuclear Weapons as a Strategic Option

During the past few years India has increased considerably its conventional strength by taking an active defence posture to protect its vital territorial and other interests. India now possesses the world's fourth largest armed force and third largest army.[35] It has been argued that a nuclear weapon force would reduce reliance on conventional forces and thereby defence expenditure could be reduced.[36] It is also maintained that with the introduction of an element of nuclear deterrence into Indian strategy, expenditure on large conventional forces could be reduced since the risks would be too

---

34. Krishan Kant, n.23.

35. Betts, n.27, pp.154-55.

36. Krishan Kant, n.26.

great for any aggressor who persisted in conventional forms of attack.[37]

The possession of a minimum deterrent by India, it is argued, would more than match Pakistani nuclear threat because of the geographical advantages that lie with India. In Pakistan's case, the strategic targets - Islamabad and Karachi - are within easy bomber range, whereas for Pakistani bombers targets such as Delhi and Bombay would be difficult to reach so long as the present limitations of delivery systems continue.[38]

"Another advantage of countering the Pakistani threat with an Indian deterrent would be that the tactical use of the nuclear bomb would be virtually ruled out so long as both sides possessed only a limited number of bombs, and if that were so, India's conventional superiority - even if only marginal - would still exert its own influence on the battlefield. Thus both in nuclear and strategic confrontation India would retain the strategic advantage".[39]

The Indian deterrent would also add considerably in India's bargaining power vis-a-vis China and Pakistan

---

37. D. Som Dutt, "India and the Bomb," Adelphi Papers, n.30, (November, 1966), p.3.

38. D.K. Palit and P.K.S. Namboodiri, Pakistan's Islamic Bomb (New Delhi, 1979), pp.141-42.

39. Ibid., p.142.

especially on territorial disputes. Any negotiated settlement of the Aksai Chin and Kashmir issues could be expedited as India possessed the necessary clout to bargain from a position of strength.

The Technological Argument

The 1974 explosion clearly showed that India has already mastered the necessary technology for designing, fabricating and exploding a nuclear device, may be of the Hiroshima type. As there were no further experiments, it is not predictable the exact nature of the technology the Indian atomic scientists now possess. Appreciable levels of modernisation have taken place in the conventional field and many of the conventional delivery vehicles could be converted for the nuclear weapon purpose. The Jaguar, MIG 23, MIG 27 and Mirage 2000 fighter aircrafts, India has already acquired and in the process of acquiring, are all deep penetrable aircrafts, which could be converted as nuclear delivery systems if India decides so. Recent reports indicate that missile technology has made rapid strides in India. In the conventional field modern anti-tank missiles like TOW and Milan have appeared. Also in the naval side ship to ship and surface to air missiles like Crotale, SA 9 and Super Hawks have been introduced.[40]

---

40. Times of India (New Delhi), 8 August, 1983.

India is also reportedly developing an airlaunched, subsonic, cruise missile capable of carrying conventional and nuclear warheads designed to attack command and control centres, ships and runways.[41] According to this report India is also planning to develop a ground launched version of the cruise missile to be fired from heavy trucks. The first version of this called Pilotless Target Aircraft (PTA) is expected to begin flight tests early 1984 and will be in full production in 1987.[42]

Whatever may be the veracity of these reports, it is an undisputable fact that sophisticated missile technology is within the reach of India. Another report in early 1983 said the Indian Air Force Jaguars have successfully fired French supplied Matra R-550 magic missiles installed on their overwings, the first country in the world to do so.[43] The acquisition of this technology will have tremendous importance in the event of India going for nuclear delivery systems.

India made a big leap towards the IREM capability in April 1983 when it successfully launched the indigenously made SLV 3 launch vehicle with the forty kilogram Rohini

---

41. Aerospace Daily (Washington D.C), 24 August, 1983.

42. Ibid.

43. Patriot (New Delhi), 10 January, 1983.

satellite in to the earth's orbit. The seventeen ton SLV 3 rocket with its highly sophisticated guidance systems has given the country the capability for building IRBMs, according to the Chairman of Indian Space Research Organisation (ISRO) Prof. Satish Dhawan.[44] Some Western analysts suggested that the fourth stage of the rocket and its pay load area could be replaced with 400 kilogram warhead, including a nuclear bomb if India decides so.[45]

Constraints on the Nuclear Weapons Programme

(a) Domestic: The Indian approach to nuclear weapons over the years was that they are evil weapons of mass destruction. "This immorality of nuclear weapons would make it harder to plan - at least explicitly or without a radical change in the philosophy of the governing elite - a strategy of retaliation against population as opposed to military forces".[46] Thus before joining the global nuclear arms race, Indian decision makers will have to take into account not only questions and issues concerning national security, international prestige and stature, regional primacy or leadership,

---

44. The Hindu (Madras), 18 April, 1983.

45. United Press International, News Report, 25 October 1983.

46. Lewis, A. Dunn and Others, Trends in Nuclear Proliferation 1975-1995: Projections, Problems and Policy Options (Washington D.C., 1976), p.163.

but also the questions of morality and the Gandhian heritage of non-violence.[47]

The greatest political obstacle will be to put nuclear weapons under a doctrine which has some credibility. A non-use doctrine would give the weapons no credibility, while a no first use would be more beneficial. Whatever may be the usage theory attached to the weapons system, the basic idea of having a credible nuclear weapon force would be to use it as a deterrent capable of thwarting any enemy attacks as the enemy anticipates retaliation instantly. Such a deterrent posture requires a second strike capability, which at the present stage would be difficult for India to attain.

Change in the elite role and new methods of crisis management are required to make the nuclear weapons fit into the present military-civilian structure. The elite will have to modify their traditional perceptions of non-violence and should plan and prepare to use the weapons when the exigency calls for. Hitherto the politicians took only policy decisions, leaving the actual operational part to the commanders of armed forces. "With the induction of nuclear weapons, command structures will have to be restructured to define the role of the actual decision maker

---

47. Bhabani Sen Gupta and Centre for Policy Research, Nuclear Weapons: Policy Options for India (New Delhi, 1983), p.84.

and the field commander as the implications of escalation and the need for restricting the area and magnitude of even the smallest conflicts are so far reaching that blanket sanctions cannot be given to military commanders as to the choice of weapons and even of targets."[48]

(b) External: India's decision to go nuclear may have far reaching effects in the non-proliferation front too. The Western reaction to the 1974 testing was bitter and that followed a new wave of international nuclear rules which hampered to a great extent India's further growth in the nuclear energy field. India, joining the nuclear club would crumble the nuclear non-proliferation regime and may lead to economic and political sanctions. Moreover, it may usher in a new proliferation wave ranging Pakistan, Iran, South Korea and even Japan.

The greatest effect could be on India's relations with its immediate neighbours. The nuclear weapons will not help to reduce tension in the subcontinent which is already plagued with internecine wars and territorial disputes. It may further aggravate the Indo-Pak tensions, putting an end to a political settlement of the Kashmir problem. The reaction of China may not be the same as that

---

48. Dutt, n.37, p.5.

of 1974 as there is a marked change in the Chinese nuclear policy in recent years.

With nuclear weapons in hand India will enter into a new era of nuclear arms race with China and Pakistan. To reach parity with China, which is already twenty years ahead of India in the weapon technology, would be a tough task. Thus India will have to face the realpolitik of strategic gaming when vulnerability of its nuclear facilities to pre-emptive strikes by the enemy is quite high at least at the early stage.

The economic effects may not be a big constraint as nearly as one per cent of the GNP could be diverted to for nuclear weapons in addition to the three to four per cent already expending on defence. But the use of nuclear weapons in the possible conflict with Pakistan and China are questionable as the geographical feature of the borders make them less advantageous compared to conventional forces. The terrains of the Himalayas would make atomic use in the border clash less effective while an attack deep inside the enemy's territory would entail more expenditure which would affect the plan allocations for developmental activities. "What is less difficult to predict is that once India goes nuclear, it would be under continuous pressure to keep pace with technological change, thus climbing to ever higher thresholds of nuclear weaponry."[49]

49. Bhabani, n.47.

(c) Technical: In the technical field also India will have to make radical changes for adopting to the nuclear weapons era. Electronic revolution has made the control of nuclear weapons more intricate. The command, control and communication (C^3) of conventional forces need considerable modernisation for use in atomic warfare. India will also face hurdles in delivery system as testing and deployment of nuclear missiles would take more time than other delivery systems. Not only this, the Indian experience in fabricating and exploding a plutonium device has its own limitations. "India's PNE was a fission rather than a thermonuclear device, and relatively small yield plutonium weapons would be unlikely to present a credible deterrent against megatonnage thermonuclear weapons".[50]

The decision to nuclearise will pose a more important question. Whether the Indian deterrent would provide the country protection against nuclear blackmail or super power threat? According to an analysis "regardless of all its efforts the Indian deterrent will be second class. It will be viable against Pakistan and other small nuclear powers that might emerge by the 1990s, say Iran or Indonesia. It may or may not be viable against China, but will be not threat at all to the U.S. and the Soviet Union."[51]

---

50. Bray and Moddie, n.1, p.115.

51. Bhabani, n.47, p.85.

Training of field commanders in atomic warfare could be another constraint. Hitherto the soldier has been trained in the conventional warfare while atomic weapons will radically change the mode of combat. Moreover, combatants, along with civilians have to be trained in civil defence methods though no effective and inexpensive civil defence methods exist currently. Finally, command and control of nuclear weapons might lead to civilian vs. military as well as inter-service conflicts.

Chapter III

PAKISTAN'S NUCLEAR OPTION: COMPULSIONS AND CONSTRAINTS

Pakistan, according to general imagery is the next prime candidate to the nuclear club.[1] This impression is based on the projected nuclear ambitions of that country and the controversial nature of its nuclear power programme. According to one writer, though, Pakistan has periodically announced ambitious plans for civilian nuclear power programmes, its strategy seems to defy logical analysis except for a presumed explosive programme.[2] It is argued that there was no reasonable requirement for the large capacity reprocessing facility such as the one Pakistan wanted to build at Chasma, given the existence of only the small heavy water reactor at Karachi.[3] "Likewise, Pakistan had no need at all for an enrichment capability, at least until Pakistan solicited bids for the light water reactor to be located at Chasma. Pakistan had justified the reprocessing facility on the basis of an ambitious and wholly unrealizable programme of adding one heavy water reactor per year into the 1990s."[4]

---

1. Ashok Kapur, "Nuclearising Pakistan: Some Hypotheses," Asian Survey, Vol.6 (May 1980), p.495.
2. Richard P. Cronin, "Prospects of Nuclear Proliferation in South Asia," Middle East Journal (Autumn,1983),p.603.
3. Ibid.
4. Ibid., p.604.

Pakistan's nuclear ambivalence has often led to speculations by the Western media and intelligence sources on the exact nature of its weapons programme. It is still unclear as to what level Pakistan has reached in the fabrication and testing of a nuclear bomb. There has been occasional reports that Pakistan has made much headway in the two routes of weapon making - the plutonium and enriched uranium routes - using its own facilities as well as through clandestine means. It was reported in 1980 that the Karachi Nuclear Power Plant (KANUPP) has produced about 74 kilograms of separable plutonium annually for six years till 1980.[5] A 'New Scientist' report published in December 1982, however, said Pakistan must have produced up to 20 kilogram of weapons grade plutonium at the KANUPP reactor.[6] In the wake of these reports on the storage of weapons grade plutonium, the 'Strategic Survey' wrote that during 1982-83 period Pakistan continued its attempt to obtain essential components for a nuclear weapon of an implosion type.[7]

Side by side with storing its own weapons grade plutonium, Pakistan tried also to acquire uranium from other countries. A 'News Week' report, published in December 1982

---

5. Arun Kumar, "Pakistan's Quest for Nuclear Leadership," PTI Feature, 9 November 1980.

6. Quoted in Times of India, 15 December 1982.

7. Quoted in Times of India, 18 May 1983.

quoting American intelligence sources said that China had slipped to Pakistan both raw uranium and blueprints for building a nuclear bomb.[8] This enabled Pakistan to go for a weapons programme without a test explosion which would have resulted in the withdrawal of U.S. aid to that country.[9]

In fact, before getting the Chinese aid, Pakistan in 1981 reportedly purchased some 110 tonnes of uranium concentrate or yellow cake from Niger.[10] Besides this Libya had also reportedly helped Pakistan to acquire uranium from Niger for the manufacture of an "Islamic Bomb".[11] In the first quarter of 1981 Libya bought some 1000 tonnes of uranium from Niger and handed over it to Pakistan to make the bomb.[12] The Pakistanis had reportedly used this uranium for fuelling their Candu reactor at KANUPP to generate electric power and to produce plutonium from the used fuel.[13]

However, the most convincing evidence for the Pakistani nuclear weapons programme came in February 1984 when A.Q. Khan, Head of the Kahuta centrifuge facility

---

8. Newsweek, 9 December 1982.
9. The Washington Post, 28 January 1983.
10. Steve Weissman and Herbert Krosney, The Islamic Bomb (New York, 1983), p.210.
11. Ibid.
12. Ibid.
13. Ibid.

declared that Pakistan has achieved commendable success in the enrichment of uranium putting an end to Western monopoly in this field.[14] Khan claimed that Pakistan has achieved in a record short time what Holland, U.K., West Germany, Japan and the U.S. achieved in as long a period as twenty years with huge financial investments and left India far behind in the enrichment technology.[15] According to Khan making of the bomb would be now a political decision, but if entrusted with any responsibility, by the Government in this regard, "we will never disappoint the nation".[16]

Though, Khan's assertion does not give a clear picutre on the exact amount of enriched uranium Pakistan now possesses, it is believed that 90 per cent of enrichment of uranium has been achieved at Kahuta with enough quantity for several explosive devices.[17] Khan's claim is considered as a significant pointer that after a year of the enrichment success, Pakistan has moved several steps forward in designing and fabricating an explosive device and its trigger mechanism.[18]

---

14. See, Dr. A.Q. Khan's Interview with Nawai Waqt, 10 February 1984 quoted in Public Opinion Trends Analysis and News Service (POT), New Delhi, 17 February, 1984.

15. Ibid.

16. Ibid.

17. Times of India, 22 February 1984.

18. Ibid.

Though, secrecy still shrouds the real Pakistani intentions, four possible Pakistani options could be suggested. They are: (a) to explode a few nuclear weapons under the garb of PNEs, (b) to conduct one experiment as India did, (c) reaching the threshold state i.e. acquiring the capability short of a formal 'bang' and (d) to conduct tests in some other countries. However, there is also a growing opinion among strategists that Pakistan might copy the Israeli strategy of building bombs just short of completion so that it cannot be accused of illegal proliferation.[19]

Incentives for Weapon's Acquisition

(a) The Security Dilemma: The raison d'etre behind the Pakistani efforts to acquire nuclear power status has often been suggested as the 'India factor'. In the words of a Pakistani writer: "Pakistan's desire to acquire nuclear weapons arises largely from a perception of a nuclear threat from India dating back several years and not from an impulsive militancy within the context of an Islamic religious revival."[20] The Indian nuclear explosion has thus been attributed as a major element in the Pakistani threat perception. Pakistan

---

19. Newsweek, 9 December 1983.

20. Zalmay Khalilzad, "Pakistan and the Bomb," Survival, Vol. XXI (November-December 1979), p. 244.

does not subscribe to the Indian view that the 1974 Pokharan explosion was a "peaceful" one. Besides this there is a growing belief among Pakistani politicians and strategists that India possesses a small stockpile of nuclear weapons and hence, "proliferation across the border is an accomplished fact."[21]

It has also been argued that Pakistan's plea for security guarantees from the great powers against Indian nuclear threat went unheard. According to Zalmay Khalilzad "after the Indian explosion Bhutto asked for more aid and arms from the United States and security guarantees. Besides the limited lifting of (arms) embargo little else was done to increase Pakistan's sense of security; the CENTO pact was not strengthened and a guarantee against nuclear weapons was not offered."[22]

Given India's conventional superiority in terms of arms forces, territory and resources, the nuclear clout India had achieved after the explosion was definitely painetaking for the Pakistani leadership. Moreover, the explosion came within three years of the dismemberment of Pakistan, and the role India played in the Bangladesh liberation war would have served as another cause for apprehension for the already battered and bruised Pakistani nation.

---

21. Shirin Tahir Kheli, The United States and Pakistan: The Evolution of an Influence Relationship (New York, 1982), p.120.

22. Khalilzad, n.20, p.246.

"The loss of East Pakistan at Indian hands in 1971 was taken by Islamabad as a graphic reminder of the precariousness of Pakistan's security. Given the ability of Indian armed forces to free any of the remaining constituent territories of Pakistan at will, and the continuing difficulty of the Indo-Pakistani leadership to evolve a peaceful coexistent modus vivendi, it was hard for the Pakistani elite and the public to feel confident about the future integrity and security of the country".[23]

Pakistani fears also stem from a belief that India's nuclear clout has stiffened its posture on Kashmir. Pakistan has fought three major wars with India for wresting the Muslim dominated territory from the Indian hands. But in all these wars, Pakistan could not make headway except gaining some portion of the territory during the 1947 incursions. According to some Pakistani analysts, with the acquisition of nuclear teeth India not only demonstrated its technological superiority but also gave a warning shot to Pakistan that any attempts to invade Kashmir would be disastrous to Pakistan's existence as a nation. The technological superiority also meant for many Pakistanis that "they will not only have to forget about the Kashmir issue but will have to learn to live under the shadow of a hostile

---

23. Kheli, n.21, p.119.

and powerful nuclear neighbour. For them this was a bitter pill to swallow".[24] The Pakistani fear of nuclear blackmail by India was expressed by Bhutto way back in 1969 when he wrote: "If Pakistan restricts or suspends her nuclear programme, it would only enable India to blackmail Pakistan with her nuclear advantage but would impose a crippling limitation on the development of Pakistan's science and technology".[25]

India's rejection of Pakistani proposals for declaring a nuclear weapon free zone in South Asia and international inspection of both the countries' nuclear installations also added fuel to the Pakistani security fears. The Indian view that a nuclear free zone would be an unrealistic concept unless nuclear weapons were eliminated all over the world is unacceptable to Pakistan. Pakistani strategists generally disagree with the Indian view point that China should renounce its nuclear weapon for any meaningful establishment of nuclear weapon free zone in the subcontinent.

Ever since the Afghan crisis started in 1979, Pakistan's security threats have multiplied. Apart from giving shelter to more than one million Afghan refugees

---

24. Pervaiz Iqbal Cheema, "Pakistan's Quest for Nuclear Technology," ANU Working Paper 19 (Canberra 1980), p.6.

25. Z.A. Bhutto, The Myth of Independence (London, 1969), p.153.

Pakistan has been accused as the springboard of Afghan guerillas fighting for the overthrow of the Soviet backed Karmal regime. According to an analyst "the Pakistani worries do not particularly stem from the fact that the new situation in Afghanistan has brought the Soviet influence to within 350 miles of the Arabian sea, it is the increased probability of Afghan-Soviet support to the discontended elements in the minority provinces - Baluchistan and North West Frontier - which is generating apprehension and fear among them.[26]

Nuclear Weapons as a Strategic Option

A nuclear weapon force, it has been perceived, would serve as a deterrent against India's nuclear and conventional capabilities and also function as a minimum deterrent against the Afghan-Soviet threats. The thinking of some members of the Pakistani elite confirm this argument. Sajjad Hyder, the former Pakistani Ambassador to India and the Soviet Union argues that Pakistan cannot hope to deter India unless it develops a credible nuclear capability.[27] "We must begin by clearly identifying the various nuclear options open to us how to make them credible to our friends and potential adversaries and the lead time frames involved

---

26. Cheema, n.24, p.8.

27. The Muslim (Islamabad), 2 March 1984.

before choosing the best option or mix of options", he writes.[28] Stephen P. Cohen, an American expert on South Asian defence, suggests that a Pakistani nuclear capability would neutralise an assumed Indian nuclear force. According to many Pakistanis this "would provide the umbrella under which Pakistan could reopen the Kashmir issue. A Pakistani nuclear capability paralyses not only the Indian nuclear decision but also Indian conventional forces and a brash, bold, Pakistani strike to liberate Kashmir might go unchallenged if the Indian leadership was weak or indecisive. To a lesser extent such a nuclear force might enhance Pakistan's deterrent along the Durand line. A major incursion into Pakistan could trigger a Pakistani nuclear response, directed against purely military targets in Afghanistan or the Soviet Union itself."[29]

Given the nature of the Pakistani strategy during the last three wars it could also be assumed that nuclear weapons could be used as offensive weapons so as to gain a major initial victory in any future wars so that an unacceptable damage at the very outset would weaken the morale of the Indian armed forces. Cohen believes that given

---

28. Ibid.

29. Stephen P. Cohen, "Identity, Survival, Security: Pakistan's Defense Policy," in Surendra Chopra ed., Perspectives of Pakistan's Foreign Policy (Amritsar, 1983), p.61.

Pakistan's size, location and the terrain along its eastern border with India its strategists have always been attracted to the doctrine of the "offensive-defensive".[30] Cohen contends: "in time of the heightened crisis Pakistan has not hesitated to be the first to employ heavy use of force to gain an initial advantage. This was clearly the pattern in 1965 and possibly in 1971, in both cases it was thought that a short, sharp war would achieve Pakistan's military as well as political objectives."[31]

During the last two wars, both India and Pakistan concentrated its heavy attacks on military installations rather than on civilian population. This was due to the peculiar geographical and political conditions of South Asia. The proximity of major border towns and social and cultural bondages of the people across the two border as well as the radiation effects of a possible nuclear war would make a Pakistani strategist to rely on a strategy by which heavily populated Indian cities could be destroyed.

Other Incentives: Islamic Connection, Role Perception and Domestic Milieu

Ever since its emergence as an independent nation Pakistan has tried to become the leader of the Islamic fraternity. The very rationale behind the creation of

---

30. Ibid., p.59.

31. Ibid.

Pakistan was Islam and hence it was a logical corollary that legitimacy of the state could be reinforced from possible threats specially from India. For the Pakistani leadership, especially for Bhutto the acquisition of nuclear technology and nuclear weapons could make Pakistan one of the most important and respected members of the Muslim bloc.[32]

Declaring the common cause with the Islamic countries Bhutto wrote from his death cell: "We know that Israel and South Africa have full nuclear capability. The Christian, Jewish and Hindu civilizations have this capability. The Communist powers also possess it. Only the Islamic civilization was without it".[33] The acquisition of even a few nuclear weapons, it is argued, could provide Pakistan with considerable countervalue capability and to increase its international prestige, especially among the Middle Eastern countries.[34]

Pakistan's ambition to lead the Islamic nations could be seen in its efforts to declare common cause with the Arab countries against Israel and Zionism, its leading role in the formation of the Islamic Conference Organisation (ICO) and its close technical and military collaboration

---

32. Cheema, n.24, p.10.

33. Z.A. Bhutto, If I am Assassinated (New Delhi, 1979), p.138.

34. Khalilzad, n.20, p.248.

with many Arab countries. On many occasions Pakistan helped friendly Arab countries with armed forces in their wars against insurgents and also against Israel. To suppress the Dhofar insurgency Oman employed Pakistani troops while in the 1973 Arab-Israeli war Pakistani pilots flew military missions on behalf of Libya and Syria.[35]

In addition to the supply of military personnel Pakistan is reported to have 300,000 civilians employed in Middle Eastern and North African Muslim nations.[36] Pakistan also maintains military advisers and service personnel in Arab countries like Saudi Arabia for training of Pilots and other officers.[37]

The Muslim connection could further be explained in the nuclear context. A nuclear bomb explosion under the garb of "Islamic bomb" would generate considerable support among the hard core Arab countries who have failed to defeat Israel. It would give the Pakistani bomb an ideological and religious colour i.e. a bomb for the crusade against Zionism and Israeli domination. Further, doubts have been expressed that Israel possesses nuclear bombs in the basement. Therefore, an Islamic bomb becomes all the more a

---

35. Sheikh R. Ali, "Pakistan's Islamic Bomb," Asia Pacific Community (Spring 1982), pp.76-77.

36. Ibid., p.77.

37. Ibid. Quoted from Pakistan Times (Rawalpindi), 28 February 1977.

necessity. It would neutralise the Indian criticisms on the Pakistani plans as also of the nuclear powers.

Apart from the Islamic connection, Pakistan's role perception has been a major inducing factor in its efforts to acquire modern weapons including nuclear weapons. The single premise that has underlain Pakistan's foreign policy derives from India's centrality in nearly every calculation of its foreign policy makers.[38] A keen insight into Pakistani pronouncements make it clear that it was never willing to accept India's superiority militarily or politically. Thus, Pakistan always sought to play a "much larger and influential role in regional and world affairs than its circumstances and capabilities permitted".[39] A nuclear force would provide Pakistan the much needed clout to assert its position in the region vis-a-vis India. It would be one means of deflating Indian predominance or showing that Pakistan has to be taken seriously as an independent international actor.[40]

Internationally, a nuclear weapon capability would be used as a bargaining chip with the United States and other

---

38. W.Howard Wriggins, "The Balancing Processes in Pakistan's Foreign Policy," in Lawrence Ziring and Others (eds.), Pakistan: The Long View (Dunham, 1977), p.303.

39. Norman D. Palmer, "Pakistan: The Long Search for Foreign Policy," in Ziring, n.38, p.404.

40. Richard K.Betts, "India, Pakistan and Iran," in Joseph A. Yager, ed., Non-Proliferation and U.S. Foreign Policy (Washington D.C., 1980), p.129.

Western countries which always treat Pakistan as one of the test cases for arresting the proliferation threat. This was evident in the French decision to cancel the agreement for the construction of the reprocessing plant and the Carter Administration's threats to stop military aid to Pakistan if it exploded a nuclear bomb.

The domestic aspect in the Pakistani nuclear decision is also to be taken into account. Pakistan has an unstable military regime which came to power after overthrowing Bhutto's elected government. A nuclear weapon force could be used by the military regime to prop up its prestige among the people and to remove doubts about its legitimacy.

Constraints on the Weapons Programme

Despite media reports on the imminence of Pakistan's nuclear weapon testing and statements by Pakistani strategists and politicians on the desirability of acquiring nuclear weapon capability, Pakistan has not so far demonstrated its capability either to fabricate or to explode a nuclear device as done by India in 1974. There is always a gap between the Pakistani intentions and its capabilities as far the nuclear field is concerned. Pakistan will have to overcome a variety of constraints, international, domestic, technological and economic, before it could

proceed with the planning and implementation of a nuclear weapon force.

International

The major international constraint on Pakistan to go for nuclear weapons appears to be the realisation among the Pakistani leadership that such a course would trigger off a multitude of reactions, both from the immediate neighbours and from the nuclear weapon powers. Unlike India, Pakistan's nuclear energy programme is heavily dependent on nuclear supplier countries and most of the Pakistani facilities are covered by the IAEA safeguards. Any diversion of fissionable materials, if noticed, could result in immediate punitive measures on the part of the supplier countries. Various reports about clandestine activities of Pakistan resulted in a situation in which Western supplier countries were threatening to scrap their nuclear agreements with that country. In 1976 Canada cancelled its supply relationship with Pakistan fearing that it might explode a bomb. France cancelled its agreement in 1978 after delivering blueprints for the reprocessing plant and in 1979, the U.S. announced the termination of its developmental assistance to Pakistan in view of that country's acquisition of components from the U.S. and West Europe to develop a uranium enrichment facility.[41]

---

41. Kapur, n.1, p.505.

The sensitivity of the United States to Pakistani efforts towards becoming a nuclear weapon power is well known to Pakistan. The U.S. press and anti-proliferation lobby in the Congress and Administration have to a great extent exposed the Pakistani intentions over the last few years. Though the United States considers Pakistan as a frontline state against the Soviet Union ever since the Afghan crisis started, it is doubtful that America would like to see Pakistan arming with nuclear weapons. Washington has often threatened that a nuclear detonation by Islamabad would lead it to abrogate the plans for modernisation of Pakistan's armed forces under the 3.5 billion dollar military-cum-economic aid package.

Pakistan has also to overcome quite a few regional constraints before going nuclear. A nuclear detonation by Pakistan would undoubtedly trigger off reactions from India and countries like Israel. India might be forced to go nuclear thus creating a situation in which Pakistan will have to acquire more and more nuclear teeth. Cohen has rightly put it: "Pakistanis are just entering the nuclear era, but without full comprehension of the risks and dangers of nuclearisation and certainly without the technical and scientific resources to even begin competition with its regional rival India and the new regional super power the Soviet Union."[42]

---

42. Cohen, n.29, p.51.

A situation of nuclear asymmetry vis-a-vis India would be suicidal for Pakistan which may have to face even preemptive strikes from the regional adversary, India and its global adversary Israel. In a nuclear arms race India achieving edge in the short run would also adversely affect the Pakistani nuclear deterrent as in such a situation it will have no second strike capability.

Thus the strategic options Pakistan will have even after acquiring nuclear weapons are not all that attractive in the present environment. The choices are increasingly risky and limited. "It would be suicidal for the Pakistani army to provoke a confrontation with India today as limited incursions to the Indian or Afghan territory run great riks of escalation; above all there remains the new possibility of active Indian-Soviet cooperation based on the 1971 Treaty of Friendship which places Pakistan in a hopeless strategic position".[43]

Technological Constraints

A nuclear Pakistan's greatest concern would be how to confront India which is technologically far advanced. India has at least an edge of ten years over over Pakistan in the nuclear field, being the pioneer Third World country to embark on a nuclear energy programme. India had already

---

43. Ibid.,

shown its ability to fabricate a nuclear device and its ability to explode it successfully a decade ago. India has also considerable amount of unsafeguarded fissile materials which it accrue from the civilian programme. Despite its claim that the Kahuta facility has produced sufficient enriched uranium Pakistan is still short of the level India has reached in nuclear technology with plutonium.[44]

Lack of delivery systems will be another constraint. Though Pakistan is acquiring the sophisticated F-16 fighter aircraft from the United States, it does not have the technological capability to convert these planes into nuclear delivery systems unless U.S. itself comes to its rescue. Other war planes under the Pakistan Air Force like Canberra, Mirage V and Mirage IIIB have limited penetration capability and would require massive modifications for transforming them as nuclear delivery systems. Compared to India, Pakistan's space programmes are still in an infant stage. India's IRBM capability puts Pakistan in a very precarious position. If India acquires the missile systems, it will simultaneously acquire the second strike capability too.

Pakistan can thus be termed as a "static" threshold nuclear power without enough technological thrust to go

---

44. Rodney W. Jones, Nuclear Proliferation: Islam, the Bomb and South Asia, Washington Paper 82 (London, 1981), p.31.

nuclear. Whereas, India remains in the category of "dynamic" threshold nuclear powers with the technological capability to go nuclear at a comparatively short notice and without taking recourse to fundamental changes in its nuclear development programme."[45]

Domestic Constraints

Domestically also Pakistan will have to surmount many constraints before going nuclear. Pakistan belongs to a class of states whose very survival is uncertain, whose legitimacy is doubted and whose security related resources are inadequate.[46] Unlike other nuclear weapon powers, the legitimacy of the Pakistani regime is very fragile. Sudden political changes make the Pakistani system one of the most unstable political systems in the Third World. Apart from this, the role of the military in political decision making is more apparent in Pakistan than any other nuclear weapon powers. As long as the civilian control is lacking in nuclear decision making, the armed forces may resort to politically unwise decisions which would be disastrous to the survival of Pakistan as a nation.

---

45. Brij Mohan Kaushik and O.N. Mehrotra, Pakistan's Nuclear Bomb (New Delhi, 1980), p.35.

46. Cohen, n.42.

The nuclear capability would also entail major restructuring of war tactics and orientations of ordinary soldiers. Pakistan will have to take into consideration the possible inter-service conflicts when it goes for nuclear weapons.

Chapter IV

PROSPECTS OF NUCLEAR PROLIFERATION IN SOUTH ASIA

South Asia has been described by many scholars of nuclear proliferation as the triggering ground for the next chain of nuclear proliferation ever since India detonated a plutonium made device in 1974. Despite India's repeated assertion that the explosion was only for peaceful purposes, sceptics consider it as one of the tempting factors for many threshold countries to become nuclear weapon powers. Thus Pakistan's attempt to build a nuclear bomb, clandestinely or otherwise, according to many Western strategic analysts, is a chain reaction from the Indian explosion.

Though, it is a decade since the Indian explosion, there is hardly any evidence suggesting that India has altered its policy options regarding nuclear weapons. Occasional debates inside the country often lead to suggestions that India is acquiring a minimum deterrent, but it lacks substantial evidence. Severe economic, political, strategic and domestic constraints make it difficult for the Indian decision makers to go for a nuclear weapon programme. Though technically India tested bomb, the country does not have a programme for the production of enriched uranium, one of the routes to a nuclear weapons programme.[1] If India wants to opt for the

---

1. Bhabani Sengupta and Centre for Policy Research, Nuclear Weapons: Policy Options for India (New Delhi, 1983), p.10.

plutonium route the only source of safeguard free plutonium available at present is the CIRUS reactor with an output of 9.4 kilogram a year. But this is considered to be too little to support a nuclear weapons programme. A programme will, therefore, have to wait the commissioning of the R-5 reactor, Dhruva, which will produce 23.4 kilograms of Pu 239 annually. But this reactor is not yet ready for commissoning.[2]

"To weaponise a single bomb design can require up to 20 separate tests, otherwise its performance and yield remain uncertain. It is not inconceivable that ten years worth of Pu 239 could be used in perfecting a deliverable nuclear weapon. Giving R-5 time to shake down and de-bugged, the first Indian nuclear weapon might not be available till the late 1980s or even the early or mid 1990s."[3]

The case of Pakistan is no way better. There is yet no substantial evidence that Pakistan is diverting weapon grade plutonium from the KANUPP facility. Though the reprocessing plant is getting ready, no information is available on the precise nature of Pakistan's capability to produce enough quantity of weapon grade plutonium or enriched uranium in the near future. The Pakistani efforts to acquire fissile materials through clandestine means [illegible] from countries like

---

2. Ibid.

3. Ibid.

China, Niger or Libya have also its limitations since the international repercussions of such a programme would be highly detrimental to its nuclear energy programme.

However, a strong urge for nuclearisation is taking place in both the countries as mutual suspicions still mark Indo-Pak relations. Under the given geopolitical situation in the subcontinent and the absence of sufficient conventional strength to face an Indian threat it would not be surprising if the pressures for nuclearisation intensify in Pakistan.[4] The perceived Indian nuclear threat coupled with Pakistan's ambitions to become the leading power in the Islamic grouping also make it imperative for the Pakistani rulers to go for a nuclear weapons programme, however, crude system it would be.

As far as India is concerned, though it has repeatedly declared that its explosion was solely for peaceful purposes and that it has no intention to developing nuclear weapons, "this intention is a subjective matter based on a unilateral decision and is subject to change at will, with or without notice."[5] Despite pressures by the pro-bomb lobby, successive

---

4. Pervaiz Iqbal Cheema, "Pakistan's Quest for Nuclear Technology," ANU Working Paper 19 (Canberra 1980), p.9.

5. William Epstein, The Last Chance: Nuclear Proliferation and Arms Control (New York, 1976), p.221.

Indian governments have stuck to the peaceful nuclear intent, though future decisions could not be forecast as the nuclear developments in Pakistan will have an important bearing on any Indian decision in this matter. Not only that, after the 1971 war considerable modernisation has taken place in India's conventional defense posture. India is currently moving away from a passive defense posture to an active one in which nuclear weapons will have a place.

There are three other possible contexts other than the Pakistani nuclear threat in which India may decide to go nuclear; (a) a deliberate decision to join the nuclear club, (b) a protest against, or defiance of, the unjust and exploitative NPT regime and a deliberate step to break the non-proliferation barrier and (c) a belated response to China's nuclear power.[6]

Technological progress in the nuclear field and the current indigenisation programmes nearing successful completion, Indian policy makers may opt for nuclear weapons, as at that stage India will not face as much adverse reaction as it might face now. India's emergence as a major power in the region and in Asia itself call for a further strengthening

---

6. Bhabani, n.1, p.20.

of its armed forces and nuclear weapons could add a substantial clout to its already acquired conventional might.

Implications of Nuclear Proliferation in South Asia

Global: A possible Indian and Pakistani decision to go nuclear will have far reaching global implications. Not only that it will undermine the nuclear non-proliferation regime and the nuclear autarchy of the weapon powers, but also could it trigger a new proliferation chain among the threshold states. It would also induce Israel and South Africa to remove their nuclear veil and to come out as serious challanges to international security. A sort of "domino theory" could be applied in the nuclear context when each time a country goes nuclear, it increases the incentives or pressures for its neighbour and other similarly situated countries to do so."[7]

The active adversary relationship between India and Pakistan presents a new nuclear situation compared to the East-West rivalry context. Whereas the NATO and WARSAW powers never fought each other after their formation, India and Pakistan have fought three major wars and possibly another round could not be ruled out given the political situation of the subcontinent. Apart from this, the two

---

7. Epstein, n.5, p.231.

adversary relationships in South Asia - India vs Pakistan and India vs China - do have major territorial disputes plaguing their relations. While India claims that China controls some 14000 square kilometre of Indian territory, Pakistan has not yet given up her claim over Kashmir. Hence any armed conflict in South Asia could spill over to nuclear level easily thereby threatening world peace.

It is unpredictable how the two super powers would react to the nuclearisation of South Asia. Given their record in thwarting the attempts of threshold countries to acquire nuclear capabilities, one can presume that they would react sharply though interest perceptions may change later. There is also a greater possibility for China aligning with a nuclear Pakistan to face any Indian nuclear threat.

Nuclearisation of India could make regional cooperation more difficult and may also prompt some of the smaller neighbours like Sri Lanka, Bhutan, Bangladesh, Nepal and Burma, to seek protection from other nuclear powers like China, America and even Pakistan.[8] To offset the Indian nuclear threat some of the littoral states of the Indian Ocean,, like Sri Lanka may go for the U.S. nuclear security guarantees which would further worsen the security environment in the subcontinent. Pakistan's acquisition of nuclear

---

8. Bhabani, n.1, p.21.

weapons would antagonise Afghanistan further, making that country a permanent vassal state of the Soviet Union. A nuclear Pakistan would also attract the wrath of Israel leaving the subcontinent a possible target of Israeli aggression.

Strategic Implications

Pro-bomb lobbyists in both the countries base their arguments for the acquisition of nuclear weapon capability on the assumption that nuclear weapons would act as a deterrent against any future wars or threat of wars. The argument is generally taken from the strategic literature of the West where deterrence is considered as the corner-stone of East-West relations.

Deterrence implies responding with punishment by the attacked.[9] A situation of "mutual deterrence" implies: (1) the capacity to deny the opponent his objectives in an attack at an acceptable cost to itself, and the ability to communicate this or (2) the capacity to impose unacceptable costs on the opponent after an attack at an unacceptable cost to itself and the ability to communicate this.[10]

But in the Indo-Pak context, achievement of a credible deterrent capability by both the countries is difficult. It

---

9. Patrick M. Morgan, Deterrence: A Conceptual Analysis (Beverly Hills, 1983), p.23.

10. Ibid., p.92.

has been suggested that the sixth, seventh and eighth nuclear powers will be third class nuclear powers who would have no effective deterrent against either the super powers or secondary nuclear powers for many years or decades to come.[11]

The Pakistani weakness in the field of delivery systems makes that country's possible nuclear deterrent capability less effective. For instance in a confrontation between India and Pakistan in the late 1980s in which Pakistan relies on aircraft for the delivery of a handful of nuclear weapons while India has nuclear armed missiles, a an Indian first strike might virtually destroy Pakistan's nuclear force, thereby greatly reducing the threat of nuclear retaliation.[12]

Another possible area of strategic dilemma would be in the targetting plans. A pre-emptive strike on Pakistan's nuclear installations would be advantageous for India, but for Pakistan this would be more difficult. Two possible strategic targetting would be one of counterforce (aiming at enemy nuclear or military assets) or of countervalue (aiming at population concentrations or economic assets).[13]

---

11. Epstein, n.5, p.35.

12. Lewis A. Dunn, Controlling the Bomb: Nuclear Proliferation in the 1980s, (New Haven, 1982), p.73.

13. Richard K. Betts, "India, Pakistan and Iran," in Joseph A Yager ed., Proliferation and U.S.Foreign Policy (Washington D.C., 1980), p.160.

The former strategy requires highly sophisticated delivery systems which both the countries do not possess now while the latter option is difficult to implement given the close ethnic and religious links of the people and the distribution pattern of population centres. Thus a threat of attack on the Kashmir plains or populated areas of Punjab would not serve Pakistan's deterrent capabilities.

The chances of nuclear war by accident or miscalculation is probably high in the South Asian context. During an intense crisis or the first stage of a conventional military clash, an accidental detonation within the country or an accidental missile launch easily might be misinterpreted as the first strike or a surprise attack. Pressures to escalate in a last ditch attempt to disarm the opponent before he completes that attack will be intense.[14] The efforts to gain initial victory would be more apparent as continuation of war would result in a disadvantageous position for one of the adversaries having a superior nuclear force. Pakistan may resort to an allout attack to disarm India's nuclear capabilities which would in turn result in India retaliating with its superior weapon capability.

A deterrence capability also rests on the capability of both the powers to convince each other of the dangers of a nuclear attack. Given the rudimentary nature of the early

---

14. Dunn, n.13, p.75.

warning systems each country possesses, nuclear intentions of the opponent 'A' would be unknown to opponent 'B'. Thus the situation would be one of "information insecurity and the players would follow the rule of safety first".[15] This would further provide incentives to one power to employ its maximum nuclear capability to avoid risks of failure in the war. There will be no time to verify the initial warning of attack because of the short distances separating the two nuclear powers, but since the stakes are high, pressure to act on such a warning lest a surprise attack succeeds should be intense.[16]

Unauthorised use of nuclear weapons by the military is also a possibility. Faced with an imminent conventional military defeat and believing that there is little left to lose any way, a few members of Pakistan's military could launch a nuclear strike against India to inflict as much damage as possible.[17]

Economic Implications

A nuclear arms race between India and Pakistan demands increased defence expenditure by both the countries from the

---

15. Harold Muller, "A Theoretical Approach to Non-Proliferation Policy," in William H. Kincade and Christopher B Bertram, eds., Nuclear Proliferation in the 1980s: Perspectives and Proposals (London, 1982), p.43.

16. Dunn, n.13, p.73.

17. Ibid., p.76.

present level. With the upgrading of nuclear and conventional weapons both the countries would have to allocate a good amount of their economic resources on new weapon systems and delivery vehicles. Deterrent capability needs drastic changes in force pattern. It involves an incremental action-reaction syndrome. In other words, to achieve parity or later superiority, one power may resort to higher spending on sophisticated weapon systems which in turn would induce the other to fodlow suit.

According to a U.S. Intelligence Agency Projection the following increase is required for a nuclear weapon programme:

Table III

ADDED COSTS OF NUCLEAR FORCE BUILDING AT FIVE LEVELS

Item	India	Pakistan
Defence Budget in 1979 (in billion dollars)	3.7	1.15
Increase for Nuclear Programme (percentage)		
10 million (mini force)	0.3	0.9
100 million	2.7	9.6
300 million	8.1	26.1
500 million	13.5	43.5
700 million (massive force)	18.9	60.9

Note: These five levels are arbitrary and heuristic.
Source: Quoted from U.S. Central Intelligence Agency, National Basic Intelligence Fact Book (July 1979), in n.13, p.151.

The figures in the table suggest that by adding about eight per cent to its defence budget India could undertake a moderate weapons delivery programme while Pakistan would have to divert more than a quarter of its resources from conventional forces.[18] Pakistan has fewer potential economies of scale, a less advanced technological base and a GNP less than one fifth of India's. Since it has a higher conventional defence burden as well, Pakistan would find it much more difficult to undertake a significant nuclear weapons programme without major sacrifices.[19]

However, these estimates have been questioned by an Indian expert study on the ground that the cost of delivery systems, weapon testing, command and communication facilities, restructuring of force patterns, civil defence etc. would make the expenses manifold.[20] According to the study an effective Indian deterrent would cost as much as Rs.15,000 crore over ten years which would be about four per cent of the country's Gross National Product (GNP).[21]

18. Betts, n.14, p.153.
19. Ibid., p.156.
20. Bhabani, n.1, p.24.
21. Ibid., p.25.

Political Implications

Nuclearisation of South Asia will cost India and Pakistan politically too. Apart from widening the already existing gulf in their relations, nuclear rivalry would add a new dimension to the crisis pattern in South Asia. It would dampen any chances of normalisation of relations and the settlement of the Kashmir issue.

Increase of tensions could lead to more crisis in Indo-Pak relations. Pakistan's nuclear weapon activities have already heightened India's suspicions and have slowed efforts to improve relations between the two countries. Should India step up its nuclear weapons activities in response and achieve clear cut nuclear superiority, Pakistan's fears of Indian nuclear blackmail would be increased as well.[22]

Nuclear weapons will in no way resolve the existing disputes between the two countries. Instead, it will stiffen the position of both the countries especially on the Kashmir question. The proposed "no war pact" and treaty of mutual friendship would lose its purpose when a nuclear situation is being thrust up on the negotiating process. Since India and Pakistan do not have a dialogue

---

22. Dunn, n.13, p.77.

on strategic questionsat present, the mutual conventional arms race now underway will further increase adding to the new nuclear dimension.

Nuclear weapons could create a stalemate in the sub-regional strategic environment as both India and Pakistan could not aspire to match the nuclear strength of either China or Soviet Union. Once a nuclear arms race begins, the establishment of a nuclear weapon free zone or denuclearisation of the subcontinent will become all the more impossible.

C O N C L U S I O N S

By the end of 1980s, when both Pakistan and India acquiring enough fissionable material and delivery systems, it is expected that both the countries may go for small nuclear weapon forces. The scenarios predictable for Pakistan are: (a) acquiring nuclear weapons of the first generation type using enriched uranium developed at the Kahuta facility; (b) acquiring nuclear weapons through clandestine means; (c) exploding a crude nuclear device in a national or foreign site, and brand it a peaceful nuclear explosion; and (d) reaching the threshold stage short of weapon testing and threatens India of nuclear arms race unless India discards its nuclear weapons option by agreeing for a nuclear weapon free zone and mutual inspection of facilities.

The scenarios in the Indian context would be: (a) continuing its post-1974 posture - no more explosions, no plans to build nuclear weapons even if Pakistan does so but no agreement on mutual inspection and weapon free zone (i.e., virtually continuation of the present policy); (b) going for a minimum nuclear deterrent before Pakistan goes, in order to face the possible joint Pakistani and Chinese nuclear threats; (c) to go for tactical weapons capability with medium range nuclear missiles and aircraft like Jaguars,

Migs and Mirages with modified delivery capabilities; or (d) reaching agreement with Pakistan on a nuclear weapon free zone on mutually acceptable terms.

These scenarios point to one probable situation where India and Pakistan acquiring a crude nuclear weapon capability in which India will have an edge over Pakistan with superior delivery systems. A limited but dangerous nuclear arms race would follow this, marking a new era in the sub-continent's strategic environment.

A nuclear arms race in South Asia is frought with innumerable dangers. South Asia is a volatile region with recurrent crises, persistent mistrusts and corrosive conflict situations. With the introduction of nuclear element, the balance of power of the region will undergo drastic changes necessitating changes in the strategic gaming of India and Pakistan. But both the countries are at least psychologically not yet ready to play such a game based on reciprocated restraint.

Moreover, the induction of nuclear weapons would affect the strategic stability of the region. Under conditions of strategic stability, both adversaries recognise that the use of nuclear weapons would inevitably entail unforseen destruction and possibly mutual annihilation. Therefore, both sides would keep an interest in

choosing a cooperative strategy i.e., maximum avoidance of the use of nuclear weapons.

In the South Asian context no strategic doctrine as to how, when and where nuclear weapons could be used exist. Hence, the less powerful adversary may be tempted to resort to an allout attack or the more powerful resorting to pre-emptive strikes could be visualized. Under both these situations, the security environment of the region will become further fragile, resulting in escalation of the crisis, even involving or inviting other nuclear weapon powers.

Acquisition of a crude nuclear weapon force capability by India and Pakistan will not help to resolve their outstanding territorial and other disputes. Instead, it will make both the powers intransigent towards reaching diplomatic solutions to the problems. The ongoing negotiations for a no-war pact and improving mutual relations will become futile with the nuclear element entering into the process.

India and Pakistan do not have currently any arms control or force reduction talks. Nuclear weapons would further aggravate the arms race with mutual mistrust on the force acquisition persisting. Nuclear weapons would also make it imperative for both the powers to devise methods and supportive doctrines to make their posture

more convincing to the enemy and to other powers. However, a viable doctrinal approach is lacking in the current strategic thinking.

The most important question that India would have to face, before going nuclear is whether it wants to reach a peaceful settlement to all the outstanding disputes with Pakistan or it wants a permanently hostile neighbour. India will also face the question whether it wants to keep up its regional preponderance using nuclear leverage much to the chagrin of the small powers of the region.

The effects of nuclear proliferation in South Asia could be summed up as: (a) increasing tension, (b) unstable nuclear force postures with the lack of credible deterrence, (c) undesired levels of conventional arms race, (d) increase of coup vulnerability in Pakistan, (e) increase in Federal Government's role in India, (f) possibilities for intra-service and military vs. civilian conflicts (g) proliferation of nuclear weapons to other regions especially the Middle East and (h) chances of both the countries aligning with the power blocs.

In a positive sense, nuclearisation of the sub-continent could result in (a) reduction in conventional arms expenditure, (b) reduction of chances of war despite tension, (c) greater efforts for non-combative resolution of conflicts, (d) generation of the awareness for arms

control, (e) regional assertiveness vis-a-vis super power domination, (f) emergence of regional mechanisms for security, (g) bolstering up of both the countries' prestige in the international system, (h) more technological independence and (i) strengthening of both the countries' non-aligned posture.

However, the dangers of proliferation outweigh the merits if one looks at the issue with a less chauvinistic perspective. The fallacy of the mutual deterrence doctrine, especially in the South Asian context, makes it absurd the existence of nuclear weapons in India's and Pakistan's arsenals.

The pertinent question is how to avoid nuclear proliferation in South Asia. At the non-proliferation level, the policy of denial by the nuclear powers and other supplier countries has proved less effective. The continued opposition to the non-proliferation regime by India and Pakistan makes it fragile as an effective instrument to check proliferation in South Asia. Treating proliferation as a technical problem, unconcerned about its political origin has its adverse effects in South Asia. A more lenient approach on the part of the nuclear supplier countries towards the civilian nuclear programme of India and Pakistan is called for as a persuasive step to arrest the incentives for both the countries going nuclear.

Moreover, the nuclear weapon powers should prove their credibility by reaching meaningful arms reduction agreement. A de-emphasis on the usefulness of nuclear weapons by the nuclear powers is all the more important in any effort to provide disincentives to threshold states especially in South Asia.

The elite thinking in both the countries increasingly favour achieving nuclear weapon capability, though there are powerful lobbies in both the countries arguing against nuclear weapons acquisition. Realisation on the part of the political and military leadership of India and Pakistan on the dangers of a nuclear arms race is very important in checking proliferation in South Asia.

It would be an unwise decision on India's part if it goes nuclear before Pakistan does so. Any move in this regard will provide Pakistan a smokescreen to go for nuclear weapons. Thus India can play a crucial role in easing tension and generating trust and cooperation in South Asia. The proposed Treaty of Friendship and Mutual Cooperation is a right step in that direction. India should also convince Pakistan through diplomatic means and political actions that it will not go for nuclear weapons despite pressures. At the international level such a stance would give India more credence and political clout and would reaffirm the disarmament commitment for which India stood over the years.

Appropriate confidence building and conflict resolution mechanisms could be developed to further ease tensions in mutual relations. In the threat assessment of both the countries this would be additional inputs. Evolving a regional security mechanism would be the suitable alternative which would make external powers' intervention in the region impossible. The negotiations on South Asian Regional Cooperation (SARC) could be expanded giving the collective security aspect a place in it.

A conference on the pattern of the European Security Conference (CSCE) for confidence building measures in South Asia could reduce considerably the prevailing tensions in the region. Such a conference would provide a means to ventillate the grievances of small powers of the region and to reduce their security fears thereby increasing their mutual understanding.

B I B L I O G R A P H Y

PRIMARY SOURCES

The International Atomic Energy Agency, Annual Report, 1982, GC (XXVII) (Geneva: IAEA, 1983).

World Bank, Energy in Developing Countries (Washington D.C., 1980).

Official Speeches, Statements, etc.

Rasgotra, M., Prevention of Nuclear War, Address at the U.N. Regional Conference for World Disarmament Campaign (New Delhi), 24 August, 1983.

SECONDARY SOURCES

Books

Bajpai, U.S., India's Security: The Politico-Strategic Environment (New Delhi: Lancers, 1983).

Barnaby, C.F., Preventing the Spread of Nuclear Weapons (London: Souvenir Press, 1969).

Bhutto, Zulfiqar Ali, The Myth of Independence (London: Oxford University Press, 1969).

_____, If I am Assassinated (New Delhi: Vikas, 1979).

Cheema, Pervaiz Iqbal, Pakistan's Quest for Nuclear Technology (Canberra: ANU 1980).

Chopra, Surendra, ed., Perspectives of Pakistan's Foreign Policy (Amritsar: Gurunanak Dev University Press, 1983).

Dunn, Lewis A., Controlling the Bomb: Nuclear Proliferation in the 1980s (New Haven: Yale University Press, 1982).

Dunn, Lewis A. and Others, Trends in Nuclear Proliferation 1975-1995: Projections, Problems and Policy Options (Washington D.C.: Hudson Institute, 1976).

Epstein, William, The Last Chance: Nuclear Proliferation and Arms Control (New York, N.Y: The Free Press, 1976).

Gompert, David C. and Others, Nuclear Weapons and World Politics: Alternatives for the Future (New York, N.Y.: McGraw Hill, 1977).

Greenwood, Ted and Others, Nuclear Proliferation: Motivations, Capabilities and Strategies for Control (New York: McGraw Hill, 1977).

Gupta, Bhabani Sen and Centre for Policy Research, Nuclear Weapons: Policy Options for India (New Delhi: Sage Publications, 1983).

Jasani, B. ed., Nuclear Proliferation Problems (Stockholm: Almqvist and Wiksell, 1974).

Jones, Rodney W., Nuclear Proliferation: Islam, the Bomb and South Asia (Beverly Hills, C.A.: Sage Publishers, 1981).

Kaiser, Karl, ed., Reconciling Energy Needs and Non-Proliferation: Perspectives on Nuclear Technology and International Politics (Bonn: Europa Union Verlang GMBH, 1980).

Kapur, Ashok, India's Nuclear Option: Atomic Diplomacy and Decision Making (New York,N.Y.: Praeger, 1976).

_____, International Nuclear Proliferation: Multilateral Diplomacy and Regional Aspects (New York, N.Y.: Praeger, 1979).

Kaul, Ravi, India's Strategic Spectrum (Allahabad: Chanakya, 1969).

Kaushik, Brij Mohan and Mehrotra, O.N., Pakistan's Nuclear Bomb (New Delhi: Sohan Publishing House, 1980).

Kheli, Shirin Tahir, The United States and Pakistan: The Evolution of an Influence Relationship (New York, N.Y.: Praeger, 1982).

Kincade, William H. and Bertram Christopher, eds., Nuclear Proliferation in the 1980s: Perspectives and Proposals (London: Macmillan, 1982).

Mandelbaum, Michael, The Nuclear Question: The United States and Nuclear Weapons, 1946-1976 (New York, N.Y.: Cambridge University Press, 1979).

Markey, Edward J. and Waller, Douglas C., Nuclear Peril: The Politics of Proliferation (Cambridge: Ballinger, 1982).

Marwah, Onkar and Shulz, Ann, ed., Nuclear Proliferation and Near Nuclear Countries (Cambridge: Ballinger, 1975).

Mellor, Jown W. ed., India: A Rising Middle Power (New Delhi: Select Book Service, 1981).

Morgan, Patrick M., Deterrence: A Conceptual Analysis (Beverly Hills: Sage Publications, 1983).

Namboodiri, P.K.S. and Palit, D.K., Pakistan's Islamic Bomb (New Delhi: Vikas, 1979).

Nayar, Baldev Raj, American Geopolitics and India (New Delhi: Manohar Book Service, 1976).

Poulose, T.T., Nuclear Proliferation and the Third World (New Delhi: ABC Publishing House, 1982).

Quester, George H., The Politics of Nuclear Proliferation (Baltimore: John Hopkins, 1973).

Sinha, P.B. and Subramanian, R.R., Nuclear Pakistan: Atomic Threat to South Asia (New Delhi: Vision Books, 1980).

Stockholm International Peace Research Institute, Nuclear Energy and Nuclear Weapon Proliferation (London: Taylor and Francis, 1979).

_____, Safeguards Against Nuclear Proliferation (Stockholm: Almqvist and Wiksell, 1975).

_____, World Armaments and Disarmament, SIPRI Year Books (London: Taylor and Francis, 1972-1983).

_____, The NPT: The Main Political Barrier to Nuclear Weapon Proliferation (London: Taylor & Francis, 1980).

Strategic Survey (London: International Institute for Strategic Studies, 1983).

Subrahmanyam, K. ed., Nuclear Myths and Realities: India's Dilemma (New Delhi: ABC Publishing House, 1981).

Weissman, Steve and Krosney, Herbert, The Islamic Bomb (New York: Times Books, 1983).

Wohlstetter, Albert and Others, Swords from Ploughshares (Chicago: The University of Chicago Press, 1977).

Yager, Joseph A., ed., Proliferation and U.S. Foreign Policy (Washington D.C.: The Brookings Institution, 1980).

Ziring, Lawrence and Others, eds., Pakistan: The Long View (Durnham: Dake University Press, 1977).

Articles in Periodicals

Ali, Akhtar, "India's Nuclear Alibi," Pakistan and Gulf Economist (Karachi), Vol.I, No.3, 10-16 April, 1982, pp.8-17.

Ali, Sheikh R., "Pakistan's Islamic Bomb," Asia Pacific Community (Tokyo), No.16, Spring 1982, pp.73-83.

Awasty, V., "Pakistan's Paranoia for Nuclear Power," Combat (Mhow), Vol.9, No.I, April 1982, pp.87-92.

Betts, Richard K., "Incentives for Nuclear Weapons: India, Pakistan and Iran," Asian Survey (Berkeley, CA), Vol.19, No.11, November 1979, pp.1053-72.

_____, "Paranoids, Pygmies, Pariahs and Non-Proliferation," Foreign Policy (New York, N.Y.), No.26, Spring 1977, pp.157-83.

Bobb, Dilip, "Pakistan: Bidding for the Bomb," India Today (New Delhi), Vol.6, No.3, 1-15 February 1981, pp.79-81.

Bray, Frank T.J. and Moodie, Michael L., "Nuclear Politics in India," Survival (London), Vol.20, No.3, May-June 1977, pp.111-16.

Bull, Hedley, "Rethinking Non-Proliferation," International Affairs (London), Vol.51, 2 April 1975, pp.175-89.

Bull, Hedley, "Wider Still and Wider: Nuclear Proliferation 1950-1975," International Perspectives (Ottawa) November-December 1975, pp.24-28.

Chari, P.R., "Indo-Pak Relations: The Nuclear Dimension," Combat, Vol.9, No.3, December 1982, pp.95-104.

_____, "India's Reaction to U.S. Non-Proliferation Policy," International Security (Cambridge, M.A.), Vol.3, No.2, Fall 1978, pp.57-61.

Chopra, Maharaj, "India's Nuclear Path in the 1970s," Military Review (Fortheavenworth,K.S.), Vol.54, No.10, October 1979, pp.38-46.

Cromin, Richard P., "Prospects of Nuclear Proliferation in South Asia," Middle East Journal (Washington D.C.), Vol.37, No.4, Autumn 1983, pp.594-616.

Dougherty, James E., "Nuclear Proliferation in Asia," Orbis, (Philadelphia,P.A.), Vol.19, No.3, Fall 1975, pp.925-57.

Dunn, Lewis A, "Proliferation Watch: Half Past India's Bang," Foreign Policy, No.36, Fall 1979, pp.71-89.

Dutt, D.Som, "India and the Bomb," Adelphi Papers (London), No.30, November 1966.

Epstein, William, "Nuclear Proliferation: The Failure of the Review Conference," Survival, Vol.17, No.6, November-December, 1975, pp.262-69.

Feld, Bernard T, "Plain Talk About Nuclear Proliferation," Bulletin of the Atomic Scientists (Chicago), Vol.35, No.I, January 1979, pp.4-5.

Greenwood, Ted and Haffa, Robert, "Supply Side Non-Proliferation," Foreign Policy, No.42, Spring 1981, pp.125-40.

Imobigha, T.A., "Nuclear Non-Proliferation and the Third World," IDSA Journal (New Delhi), Vol.13, No.I, July-September 1980, pp.117-33.

Jaipal, Rikhi, "The Indian Nuclear Explosion," International Security, Vol.I, No.4, Spring 1977, pp.44-51.

Jamal, Akhtar, "Vienna Conference: Experts Appreciate Pakistan's Nuclear Development," Pakistan and Gulf Economist, Vol.I, No.29, 9-15 October 1982, pp.35-36.

Kant, Krishan, "Should India go Nuclear?" IDSA Journal, Vol.14, No.3, January-March 1982, pp.307-28.

Kapur, Ashok, "Nuclear Proliferation in the 1980s," International Journal (Ottawa), Vol.36, No.3, Summer 1981, pp.535-55.

_____, "Nuclearising Pakistan: Some Hypotheses," Asian Survey, Vol.20, No.5, May 1980, pp.495-516.

Khalilzad, Zalmay, "Pakistan and the Bomb," Survival, Vol.21, No.6, November-December 1979, pp.245-50.

Kumar, Arun, "Pakistan's Quest for Nuclear Leadership," PTI Feature (Bombay), 9 November 1980, pp.2-6.

Mandelbaum, Michael, "A Nuclear Exporters Cartel," Bulletin of the Atomic Scientists, Vol.33, No.I, January 1977, pp.42-50.

Marwah, Onkar, "India's Nuclear and Space Programmes: Intent and Policy," International Security, Vol.2, No.2, Fall 1977, pp.96-121.

Mazuri, Ali A., "Africa's Nuclear Future," Survival, Vol.22, No2, March-April 1980, pp.76-79.

Morrison, Barrie, and Page, Doladd M., "India's Option: The Nuclear Route to Achieve Goal as World Power," International Perspectives, July-August 1974, pp.23-28.

Myrdal, Alva, "High Price of Nuclear Monopoly," Foreign Policy, No.18, Spring 1975, pp.30-45.

_____, "Nuclear Power Bounces Back," Newsweek (New York, N.Y.), Vol.CIII, No.2, 13 February 1984, pp.42-45.

Nye, Joseph S., "Proliferation Watch - We Tried Harder and Did More," Foreign Policy, No.36, Fall 1979, pp.101-4.

_____, "Prospects for Non-Proliferation - Sustaining Non-Proliferation in the 1980s," Survival, Vol.23, No.3, May-June 1981, pp.98-107.

_____, "Non-Proliferation - A Long Term Strategy," Foreign Affairs (New York, N.Y.), Vol.56, No.3, April 1978, pp.601-23.

Pant, K.C., "India's Nuclear Policy," India International Centre Quarterly (New Delhi), Vol.6, No.3, July 1979, pp.265-75.

Poulose, T.T., "Nuclear Proliferation - A Third World Perspective," Round Table (London), No.274, April 1979, pp.154-68.

_____, "India and the Nuclear Safeguards Controversy," India Quarterly (New Delhi), Vol.35, No.2, April-June 1979, pp.153-62.

Raj, Christopher S., "Tarapur: A Test Case for the U.S. Nuclear Non-Proliferation Act of 1978?" Foreign Affairs Reports (New Delhi), Vol.30, No.12, December 1981.

Ram, N., "India's Nuclear Policy: A Case Study in the Flaws and Futility of Non-Proliferation," IDSA Journal, Vol.14, No.4, April-June 1982, pp.445-538.

Sethna, H.N., "India's Atomic Energy Programme," Current Events (Dehradun), Vol.27, No.10, October 1981, pp.593-97.

Siddiqui, Abdul Rahman, "Pakistan's Islamic Bomb: Fact and Fantasy," Defense Journal (Karachi), Vol.5, No.10, October 1979, pp.1-5.

Simpson, John, "Global Non-Proliferation Policies: Retrospect and Prospect," Review of International Studies (Guildford), Vol.8, No.2, April 1982, pp.69-88.

Subrahmanyam, K., "Approaches to Nuclear Disarmament and Non-Proliferation," Strategic Analysis, Vol.5, No.9, December 1981, pp.429-38.

_____, "Nuclear Issue and International Security," Bullettin of Atomic Scientists, Vol.33, No.2, February 1977, pp.17-21.

_____, "India's Nuclear Explosion and Its Impact on Security," India Quarterly, Vol.30, No.4, October-December 1974, pp.254-61.

Subramanian, R.R., "Pakistan's Route to the Bomb: Uranium or Plutonium," Strategic Analysis, Vol.4, No.7, October 1980, pp.318,321.

_____, "India and the PNEs: The Changed Mood in 1980s", Strategic Analysis, Vol.4, No.1, April 1980, pp.30-34.

Sverre, Lodgaard, "Nuclear Proliferation: Critical Issues - Transfer of Technologies, Safeguards and Sensitive Countries," Bullettin of Peace Proposals (Toxen), No.1, 1981, pp.11-19.

Sweet, William, "U.S.-India Safeguards Dispute," Bullettin of the Atomic Scientists, Vol.34, No.6, June 1978, pp.50-52.

Tahir, Kheli Shirin, "Pakistan's Nuclear Option and U.S. Policy," Orbis, Vol.22, No.2, Summer 1978, pp.357-74.

Tomar, Ravindra, "India's Nuclear Power Programme: Myths and Mirages," Asian Survey, Vol.20, No.5, May 1980, pp.517-31.

Newspapers

Aerospace Daily (Washington D.C.)

Patriot (New Delhi)

The Hindu (Madras)

The Hindustan Times (New Delhi)

The Times of India (New Delhi)

The Washington Post (Washington D.C.).

Press Releases and News Agencies

United Press International.

Public Opinion Trends Analysis and Newsservice (POT).