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**CENTRE FOR ADVANCED STRATEGIC STUDIES**

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**PROCEEDINGS OF SEMINAR**  
**ON**  
**POKHRAN II AND ITS IMPLICATIONS**  
**1ST SEPTEMBER, 1998**

## CENTRE FOR ADVANCED STRATEGIC STUDIES

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## PROCEEDINGS OF THE SEMINAR

Air Marshal (Retd) S. Kulkarni, Director, Centre for Advanced Strategic Studies opened the Seminar and welcomed the distinguished guests and all the participants.

Major General (Retd) K.S. Pendse, a member of the Centre since its inception, a thinker and a keen student of strategic affairs spoke on the "Politico Economic Repurcussions of Pokhran II" in the first session. Air Vice Marshal (Retd) Kapil Kak, AVSM, VSM a Senior Fellow of the Institute of Defence Studies and Analyses, New Delhi spoke on the "Military Implications of Pokhran II" covering also the operability and Command and Control aspects in the second session.

After presentation by the main speakers, the subject was thrown open for general discussion at the end of each session. This proved animated, educative, thought provoking and lively and enabled the main speakers and the participants to delve deeper into the subject.

## OPENING REMARKS BY AIR MARSHAL (RETD) S. KULKARNI

On behalf of our President, Shri R.D.Sathe, who is with us today, members of the Centre and on my own behalf, I welcome you all to the Seminar on Pokhran II and its implications.

At the outset, I must convey that Professor V.G.Bhide, who is our Vice President, has not been well and has been advised by his doctors to take rest and therefore Professor Bhide would not be here today. He conveys his apologies to you all. On his behalf, I would like to convey those to you.

Therefore, today, in the first session, before the break, General Pendse will cover for us in brief, Technological Significance of Pokhran II, as also the political and economic implications of Pokhran II.

In the second session, after tea, Air Marshal Kak, would cover for us the Military Implications of Pokhran II, which would also include the Command And Control aspects.

General Pendse has been a member of the Centre since the inception of this Centre. He has been an office bearer also at the Centre. He retired almost ten years ago as Additional Director General, Financial Planning, Army Headquarters and has been a thinker as also a keen student of strategic affairs.

The other speaker today, Air Marshal Kak, is a Senior Fellow at the Institute of Defence Studies and Analyses in Delhi and he has spared his time to be with us this morning to talk about the Military Implications of Pokhran II. He has the distinction of being an Air Assistant to two of our Chiefs of Air Staff. He retired as the Chief Instructor from the Defence Services Staff College.

The intention of this seminar has been basically to see as to what is the significance of Pokhran II in political, economic and military terms.

With this I would now request Group Captain Chitnis to present a bouquet and formally welcome both General Pendse as also Air Marshal Kak to take on the technological significance, political and economic implications of Pokhran II. General Pendse.

## SESSION I

POLITICO ECONOMIC REPERCUSSIONS OF  
POKHRAN II

Chairman : S. Kulkarni  
Main Speaker : K. S. Pendse

PAPER PRESENTED BY MAJ GEN (RETD) K.S. PENDSE

Mr. Chairman & Friends

I am grateful to Air Marshal (Retd) S. Kulkarni and the Centre for Advanced Strategic Studies, Pune, for giving me this chance to air my views on the "Politico Economic Repercussions of Pokhran II."

Before commenting on that topic. I think I voice everyone's sentiments when I say that we are a bit unlucky in not hearing Dr. Bhide's views on the technological aspects of India's Nuclear Tests in May 98. I am no nuclear physicist. But as a layman I have culled some note worthy features of these tests from published material which are as follows:-

- a) Despite many technology denials by the US and its allies, Indian scientists perfected computer aided design of a variety of nuclear devices ranging from fission to fusion to subkiloton variety, hopefully in a miniaturised, warhead friendly fashion, in their laboratories before testing them physically in May 98.
- b) The fusion device had a controlled yield of 45 kilotons instead of the megatonnage tested earlier by recognised nuclear powers, and marked India's distinct progress beyond the 1974 test.
- c) Tritium had been separated successfully in a less costly manner than in the West, a fact acknowledged by their scientists.
- d) Krytron, the trigger for the fission device had been developed or reverse engineered, possibly with the help of a friendly foreign power.

- e) Underground explosion of three devices was carried out simultaneously on 11 May 98 in a foolproof manner, unlike those misfires reported in respect of tests by Pakistan on 28 May.
- f) Rugged sensors were developed to record the seismic aftereffects of these simultaneous explosions quite accurately.
- g) All the underground tests were managed successfully without release of any radiation.

And of course, the secrecy with which preparations for the conduct of these tests on 11 May 98 were executed took even the US by surprise.

In dealing with the politico-economic implications of Pokhran II, I intend to use a very broad brush so as to paint a backdrop for Air Marshal (Retd) Kak's exposition on the military implications that is scheduled later. While dealing with the global scenario that is emerging now, I shall try to identify some challenges to India's statesmanship that are implicit in its overnight elevation as a nuclear weapon capable nation. I use this term advisedly as I think India may have to travel some distance before reaching the status of a nuclear weapon power.

Ever since the demise of the Soviet Union in 1991, the post Cold War world has become distinctly chaotic. It is likely to witness not less but more violence as populations keep exploding in the poorer nations while an ongoing technological revolution among the rich nations gives them a confidence to find a technological fix for all their problems and also enable them to quarantine human misery out of their territories. In a world with 23% of its population in the rich nations commanding 85% of its income, a culture of contentment is a natural outcome among its affluent societies. Whether these societies safeguard their right to such a disproportionate income distribution in their favour through control regimes like the NPT, the CTBT, the MTCR, the FMCT, the IPR and so on, or whether they clobber the poor nations with WsMD in order to stop mass-immigration of the deprived in search of a better life remains to be seen.

The United States as the sole superpower since 1991 has been dictating the global agenda and policing the world with one single aim

in view : To make the world safe for all Americans. Witness their recent missile strikes in Sudan and Afghanistan in retaliation to the albeit inexcusable bombing of their embassies. After all, President Theodore Roosevelt did advise them "to talk softly but to carry a big stick". Therefore, a friendless and a near-isolated India, after the collapse of the Soviet Union, when in danger of default as regards servicing its massive debt, in 1991, (Rs. Seven lakh crores, on which it has to pay an annual interest of Rs. 60,000 crores, resulting in a debt/GDP ratio of 36% as compared to 19% in China) had preferred to toe the US line. Starving its defence forces of funds as directed by the World Bank/the IMF, halting the Agni programme, not deploying the Prithvi missiles and preparing to cap and roll back its nuclear programme was the price for obtaining further loans. But May 98 seemed to have changed all that very suddenly.

Pokhran II challenged this right of the rich to dictate to the poor through a nuclear apartheid. It was followed by a similar act of defiance by Pakistan. But recent events show how Pakistan's economic debility has persuaded it to agree to sign the CTBT without any condition, so as to facilitate a bail-out of its economy by the West. There have been many Indians who have advocated nuclear celibacy by the Indian state so that it can remain on the right side of the P5/G8 nations who are dominating the world order and who can facilitate, in their view, India's economic resurgence.

That is why Pokhran II was criticised at home and abroad and the US did impose sanctions as anticipated. But one thing is certain : these tests cannot be undone now. As Shri Sangma declared recently in London, India's right to nuclear security is not negotiable.

Of course, critics of this sudden change in India's nuclear policy point out how nuclear weapons have never been used except by the US against Japan in August 1945. They also quote the Western strategists' finding that nuclear wars are NOT winnable. So in their perception, India has not only lost the advantage of nuclear ambiguity but has also invited an economic setback through sanctions and technology denial post Pokhran II.

Such critics however cannot explain why there have been 50 odd instances of nuclear threats, half of them against Third World countries,



during the Cold War era and why, after the break up of the USSR and the near - disappearance of a nuclear threat to the Western powers, none of them have destroyed all their nuclear weapons, simultaneously forcing Russia and China to do so. On the contrary, the International Court of Justice has been told that they reserve the right to use these weapons in defence of their supreme national interest. What was a country-specific doctrine of nuclear deterrence vis a vis Soviet Russia is being converted into an omni-bus policy of deterring any other nation challenging this nuclear monopoly of the Permanent Five members of the Security Council. This naked display of power and brute force bodes ill for the future of mankind.

In fact there is a denial of global interdependence, which the advanced nations espouse while promoting globalisation of economy, in this anti-poor stance that seeks to justify their nuclear stockpiles. This short-sighted policy goes counter to the admonishment of noted historians like Dr. Toynbee who had remarked how mankind had only two choices before it : either commit mass suicide or learn to live as one family, and of H.G. Wells who said much the same thing when he wrote, 'Human history has become, more and more, a race between education and catastrophe.'

India, aware of this threat to human survival, had been championing the cause of disarmament and global de-nuclearisation for long and had not signed either the NPT or the CTBT as these treaties did not specify a rigid time frame for such de-nuclearisation by all nations.

Therefore, some specific developments must have impelled India to conduct these tests in May 98. One is the collusion of China and the silent support of the US to Pakistan's nuclear weapon and missile programme, while pressurising India to cap its programme by imposing various technology sanctions and denials. Second is the "coming into effect in three years" clause of the CTBT approved in 1996 by the UN General Assembly, that would have made it near impossible for India to prove its computer aided designs of nuclear devices, through actual tests if these had not been conducted now. Third is the suspicion of a US-China game plan to let Pakistan follow its Ghouri missile test in April with a nuclear test in May 98, while India remained undecided, and then impose sanctions on Pakistan and simultaneously threaten India

with Iraq-like sanctions if it dared to test its nuclear weapons after Pakistan had done so. Pokhran II pre-empted this game plan and by naming China as a long term threat to security in South Asia, India shed its namby-pamby attitude to stating its own security concerns that had marked its policy thus far. Additionally, it cannot be charged with duplicity any more, as it continues to campaign in the current NAM summit for global de-nuclearisation post Pokhran II, in addition to imposing an embargo on its own further tests and offering a no-first-use pledge to all concerned.

There is one more possible cause for Pokhran II. No doubt, among the developed nations, nuclear weapons are not seen as weapons of war but as weapons of diplomacy aimed at avoiding such wars. But it is evident from the pronouncements of politicians on both sides of the Indo-Pak border after these nuclear tests, that the use of such weapons is perceived as a final solution to all the problems including Kashmir that seem to have banished rational thinking on the nuclear issue. Defence analysts in the US have gone so far as to predict a pre-emptive nuclear attack by Pakistan on India as very likely in a future Indo-Pak conflict. Of course, some sober thinking analysts do suggest that such overt nuclear weapon tests reduce the chances of even a conventional war breaking out between these two neighbours because the fear of its escalation to a destructive nuclear exchange would inhibit reckless war mongering.

However, all these rational assumptions may get modified either by a fear of internal collapse in a debt-ridden Pakistan that is still in search of an identity, or again by a US-Chinese game plan which promotes an Indo-Pak conflict over Kashmir that allows armed intervention by US military under a UN flag into Kashmir, to help it become an independent state, in which the US would enjoy base rights for overseeing the exploitation of oil, natural gas and mineral resources of the Central Asian Republics. Knowing that the Gulf oil would run dry around mid 21st Century, the US think tanks may have suggested just such a strategy to the State Department. Therefore, both China and the US are likely to promote Pakistan as a surrogate power to thwart India's plans to prosper as an independent decision-making centre, by giving Pakistan economic, technological and direct military aid, like the aid coming now as per the Brown Amendment.

While adroit diplomacy and improved trade relations by India may offset the ill-effects of such an anti-India bias in the region, the Indian military, so far kept out of decision-making at national level, will have to evolve its strategy for a worst-case scenario. A unilateral desire for peace by India did not prevent a military conflict in 1962, nor is it likely to do so in the days ahead. And as Kashmir continues to be centre stage in Islamabad's thinking, its military establishment and the ISI must have considered many options to wrest it from India. Some of these in an increasing order of violence could be as follows :-

- a) Intensify the undeclared war in J&K.
- b) Involve the Indian military in IS duties increasingly in other parts of India by fomenting separatist movements, violence and terrorism.
- c) Subject India to nuclear blackmail through international terrorist/fundamentalist groups not based on Pak soil.

(In all these cases, India will find use of its nuclear weapons against Pakistan unjustifiable.)

- d) Once the undeclared 'Jehad' in Kashmir gains some success, launch an open military offensive to capture the Valley after isolating it by blocking Banihal.
- e) Should the above course of action run into difficulty, use its nuclear weapons for a swift victory in Kashmir or threaten its use, while preparing international support for such a Jihad to free fellow Muslims from Indian domination/human rights abuse.

Therefore, in a worst case scenario Pokhran II is just the end of one phase in the half-century long Indo-Pak hostility and the beginning of a more violent phase, likely to be exploited by China and the US for furthering their own national interest.

Economically, most surveys show the impact of sanctions on India to be minimal, in fact harmful to many interests in the US itself by denying them a market like India. Success of the India Resurgent Bonds to the tune of \$ 4.16 billion obliquely proves this point, and, provided

this money is spent on improving infrastructure for further economic growth, the post Pokhran II sanctions may prove to be a blessing in disguise.

But more importantly, the costs of India's minimum nuclear deterrent by way of direct initial costs, recurring costs and the intangible opportunity costs as technology denial has its long term impact on India's industrialisation are difficult to forecast now. It depends on what features of such a nuclear deterrent posture are adopted by India hereafter. Nor can these features be considered in isolation without undertaking essential modernisation of the defence services, ignored since 1987, because it is only a credible conventional force that helps nuclear weapons remain weapons of diplomacy for avoiding a hot war. Costs of such essential modernisation may be less difficult to gauge than that of the nuclear deterrent. Having declared itself a nuclear weapon state immediately after Pokhran II, the Indian ruling elite may find that such a label is rather costly to support if one accepts what it may entail : sufficient number of accurately deliverable nuclear tipped missiles of required ranges and /or nuclear bombs delivered by aircraft ; arrangements for their safe storage in peace and quick delivery in an emergency ; ability to launch an assured second strike because of India's no first use policy ; target acquisition and analysis on an on-going basis based on intelligence gathered through all sources including those in space ; a command structure as can survive enemy's first strike and yet launch own second strike using a reliable communication network to do so ; a well established chain of alternative command for effective use of India's nuclear deterrent when required at very short notice as flight times are of a few minutes in the South Asian context ; and a separate nuclear weapon command working on Indian Prime Minister's orders for ensuring full political control. Now that India has caught the nuclear tiger by its tail it has to avoid all squeamishness in these matters. What may help it decide the exact contours is De Gaulle's Force de Frappe that was considered small but effective in the Cold War context. Economic costs of attempting to join the big league can be borne by an India that learns to check the profligacy and corruption of its ruling elite. The only limits to our capabilities perhaps are those we believe in. What is needed is a national will to survive and thrive with dignity and honour in a dog-eat-dog world of the 21st Century, because where there is a will there is a way. Thank you.

## SESSION II

### MILITARY IMPLICATIONS OF POKHRAN II

Chairman : S. Kulkarni

Main Speaker : Kapil Kak

#### PAPER PRESENTED BY AIR VICE MARSHAL (RETD) KAPIL KAK

Good morning Ladies & Gentlemen. Mr. Ram Sathe, President Centre for Advanced Strategic Studies, General Puri Commandant CME, distinguished guests and Air Marshal Kulkarni who has been kind enough to give me this opportunity to interact with this strategic thinking community. I feel a bit intimidated in addressing such a distinguished audience.

The Shakti series of tests has been commented upon very very comprehensively this morning, not only by Gen. Pendse, but also it came up in the Question and Answer Session. This was the first determined manifestation of India's polity to see that a strategic inadequacy gets redressed.

Somebody said during the Questions Session that we have lived with the Chinese weapon from 1964. Have we? I am not quite sure because you would recollect that when Lal Bahadur Shastri went to Britain and sought British umbrella against Chinese threat, Britain said sorry! You all have studied 1971 war which was imposed on the country. DP Dhar and Kaul and so many others were at the helm of affairs at that time who ensured under Prime Minister Indira Gandhi's stewardship that we had the concept of extended deterrence in place. We pretended we lived with it until 1991, when the implosion took place. Soviet Union was no more there. What was your protection? We cannot pretend that something is protecting us. Yes, Ghouri was a final catalyst. But I have some bones to pick with internal domestic aspects of the decisions.

As a military man, the transition from the so called ambiguity to open transparent minimal stability of deterrence is of great significance because to military people anything that is ambiguous is unacceptable.

As has been rightly said, the devil is in the details. You may feel very strong when we have a weapon, but having a weapon or detonating a nuclear weapon is like having a bullet and not having a pistol or having a gun powder without gun, a mass of rubble.

We have to have the range of capabilities of having systems like the war heads. We have to have fissile material enough to plan, we have to have a delivery system and a sort of a modest command and control capability. But I would not go along with the views that you become a nuclear weapon power only after a whole range of capacities are available.

I will touch upon the operability of strategic deterrents and then look at what is the inter-relational nexus or shall I say connection between the nuclear weapons and conventional warfare, as we understand it, including the important need to say something about the validity of nuclear war fighting. I will also touch upon some issues of command and control system.

Strategic deterrence to me, to begin with, means what is the wherewithal. But before that we need to study the trends in international security environment. I do not take a pessimistic line which Gen. Pendse projected. I think we need to look at the internal pressures much more. I am not talking about the pressures to ensure high level security because security is a concept varying from individual to individual. But you have a much larger pressure on your resources for national development for improving human resources development, national development, the so called poverty alleviation programmes. Those are important and to me as a security analyst even though I spent 37 years in uniform, I do look on that area as a larger dimension of the security of India in the years ahead.

The other element of importance here when you look at the operability, is this question of our politico-military self image. The Indian Armed Forces are renowned world over as a professional body of armed forces who have a political mission to perform in the interest of the security of their nation. What is the bottom line? The bottom line is that in view of the entire composite picture, there is a compulsion for our nuclear capability to be necessarily modest.

I wrote an article in the Times of India and when I kept insisting on this deterrent being a minimum deterrent I got a nice tripos by a reader who said what is the minimum deterrent? It is like a little pregnancy. A significant point. But it is a question of what is the definition of the minimal. That also I will try to touch upon in relation to the military option. So economic considerations, criteria of affordability must be the central driving force behind all the policy choices that our leadership may tend to exercise, both in the conventional and the military sense.

To my mind, the concept of deterrence also has undergone a certain erosion, particularly in the post 90 scenario. End of cold war scenario, territorial wars appear to be now more a rarity. Global defence expenditure would necessitate this. The expenditure in nine years is reduced by one third and even in the Indo-Pak context.

The Pakistani defence expenditure, contrary to what we keep hearing about in the media has come down from 7.42 per cent of the GDP in 1991-92 to 4.86% of the GDP in 1998-99. In terms of expenditure as a percentage of Central Government expenditure it has come down from 37.9%, nearly 38% in 1991-92 to something like 23.93 % for the current year. There may be minor changes, but these are fairly authentic figures. In the case of India, from 1987-88, 3.56 % of GDP for defence, we have come down to last year 2.43% of GDP. It probably will be between 2.35 and 2.4 % of GDP in current year 1998-99, and as a percentage of Central Government expenditure from 17% in 87-88, they will probably make it 13%.

What conclusions does one draw from this trend ? Were that not much be available tomorrow, you are not going to have any incremental changes in terms of what is available for defence. That also includes now the whole panoply of the structures of the commands and control that you have to have in operation.

So this model of minimal deterrence takes the new connotation. I think for the benefit of people who are not quite aware of the rungs of deterrence which are possibly 8 step ladder. We are on the second step of that ladder. The Lower most step is collective deterrence where no single country holds that thing on its charge. The whole concept is that multilateral grouping will actually operate weapons.

We are one step ahead in terms of our need to have an autonomy in our weapon capability and that is what we are permitted to have - the minimum deterrence as smallest number of warheads that you have as deterrence of your adversaries. In our case adversaries have been specified, may be directly

It is crucial for us to understand that the concept of nuclear war fighting is dead as dodo. It is very difficult for armed forces people to believe because many people among arm chair strategists in the West including India tend to believe that we might have to use tactical nuclear weapons but not in the strategic deterrence model that has been broadly articulated by our Government at various points of time ever since 11th May 1998 irrespective of the type of deterrence we believe in and what we eventually promulgate.

No final decisions have been made but these are only indicative of what trends will operate. There have been very very widespread media expositions on the sub continent. Sitting upon the tinder box ! War is about to break out! There is Nuclear alert ! There is instability in Pakistan ! I would like to suggest to this distinguished audience that this is nothing but spinned doctrine of the western world of information management to suit a non proliferation agenda.

The kind of impact this has even amongst our thinking community is amazing. Just two weeks ago I was at a seminar in New Delhi and one of our very distinguished media personages a former editor actually got up and said I am quite worried we may have a war very soon. I don't know how army is going to handle it. And he was referring to these artillery duels which were taking place on J & K Border. Srinagar Leh road is closed. Vehicles are operating only at night. What do we do ? And sure enough, just two days later, in a major seminar, another distinguished media guy brought forth the same view.

So, I do believe that as a strategic thinking community we must see through this spinned doctrine of information management. I think this is a factor which we need to take into account. New York Times once described Noam Chomski a renowned strategic analyst as the greatest intellectual on earth. In his book, "World Order, Old and New" he has castigated the American establishment for creating this whole spinned



doctrine unleashed war primarily to suit the interest of American establishments worldwide. He further says you get caught one day or the other and this will boomerang.

So to me it appears as an analyst that war is not about to break out. Stability in the India-Pak, and China-India context will depend to a large extent upon the confidence building measures that we take as a follow through to the Pokhran. Because the whole concept of transparent deterrents is how to convey your problem, your core value areas, your limits of tolerance in the case of conventional war, the limits of penetration which will touch upon your nuclear threshold. This is extremely important.

What is the impact of a conventional war or nuclear war? Why should a war break out? The question will arise. India has justification to have a war with Pakistan because it wants to recapture the lost territory of POK. Scenario one. I do not think India will ever do it because we are committed internationally to Simla 1972. We believe negotiating table is the right forum to address all bilateral problems with Pakistan should Pakistan attack India.

I think one or two points had been mentioned earlier under the nuclear umbrella take over of Kashmir. Is that feasible? My submission is no. Because the conventional superiority India has should take care of all that security paradigm.

There is a view expressed by some thinkers that Pakistan will launch an operation against India. The moment it sees that the strategic balance in the region is turning hopelessly against it and fear as most of you know in the Pakistani establishment for the last 27 years has been when will the dismemberment phase II take place. It is a general point. I do not know if it is justified. If you read the Pakistani Press which I do fairly frequently that is the kind of range of fears that get expressed in the media.

I think that business of strategic imbalance has been addressed by that Ghouri factor which was briefly referred to earlier in the morning. To my mind, we have to accept that Pakistan is a regional influence. Let us not shut our eyes to that reality. It has the strategic missile strike

capability 1500 kms and possibly more. Why does Pakistan need 1500 kms ? Most of the VAs and VPs which are cities economic value, Maharashtra, Gujarat. They can be launched in 800 kms. HATF-30, M9 which they have is more than enough.

*There is a larger strategic dimension to it which we have not seen and that is the role Pakistan will probably play in giving extended deterrence to the region in which it has influence and that is West Asia and possibly a signal to Israel that you better take into account this reality and the Israelis are very pragmatic people. If you have been reading between the lines in the Press they have already started doing business with Pakistan. Some kind of confidence building encounter, some kind of interaction, the formal as well as informal.*

In terms of the tangibles on the ground, what is the impact. The last wars that we have fought with Pakistan, including with China, the scope, the objectives and the time scales of those wars have been determined by the national leadership of the respective countries. These were self limiting, civilised wars that have been fought. But the nuclearisation or the formal nuclearisation has changed that in the sense that this N Factor which is now bearing upon the regions of the nuclear conventional high intensity, conventional medium intensity, non conventional low intensity, there are clear and distinct firebreaks between these three.

At the same time the decisive victory which India or Pakistan may look for in a future conventional operation, I do not know but I can venture the view that it is unlikely. The pattern of modernisation as seen in India and Pakistan is not going to radically change. So there is self limiting exercise in the conventional warfare at the higher end of conflict. At the lower end nuclear weapons have resulted in stability in the sense of allowing Pakistan to engage in low intensity conflict operations in Jammu & Kashmir.

Now for nine years or so the military utility of the weapon I am afraid has been very limited in achieving success. History itself is replete with instances. What did France do in Algiers, France had nuclear weapons, what did United States do in Vietnam. US had nuclear weapons, closer home what did the Soviets do in Afghanistan. They got a bloody nose and ran back.

So the bottom line is that low intensity conflict operation will remain a feature of security in the sub-continent in India and Pakistan. China is a different cattle of fish. I do not visualise the threat. It is a very low threat environment. I think that George Fernandes, Hon. Defence Minister was misunderstood because at least analytical community is not talking about China as a strategic challenge in the long term. No one is talking about China indulging in conventional war with India till 2015-2020. That is the time we have to be careful. But there is an exception on the other hand.

A political leader said that he wanted an advisor or an analyst with one hand. I have seen all kinds of requirements coming from this leader. This is most unique. He wants an advisor only with one hand. What is the reason? He says that each time he gives me a perspective, a view point, he says on the other hand, with the result I never get a straight forward course of action.

I think this is something which we will have to take into account when we talk about the LIC scenario, particularly because now the definitions of LIC scenario are changing. The former DGMT is here. Gen Joshi will tell us about the experience in that part of the world. It is an artillery duel between India and Pakistan. There have been many in the recent past. Is that part of LIC? It is militancy, it is insurgencies, and it is terrorism. But when these tend to impinge upwards, getting on to conventional then the worries of inexplicable line between LIC and conventional and the threshold becomes that much more important.

The important point here will be that countries who are in that conflict scenario are to visualise, determine what is the nuclear threshold, what are the limits of tolerance of each country, what are the limits of penetration. In an Indo Pak scenario, penetration in Sindh so many kilometers. Does it come close to nuclear threshold. Lahore, Multan what is the penetration which you could do. But the threshold determination is important and the follow through to the Pokhran II is not purely military. It is politico military and politico military compartmentalisation is what the warfare now is.

The earlier definition of compartmentalising. This is economic, this is political, this is military. You have seen what Charare Sheriff was. You

have seen what Hazratbal was. It is a whole jumble of dimensions to a crisis.

Coming to the point of nuclear war fighting, I think this aspect deserves a few minutes. We need to take out of our mind the concept of nuclear war fighting. There are very very persuasive arguments put forth. Why do we do city busting in counter value strategies. You know talking about Beijing, Islamabad, New Delhi.

Here we have a legitimate manner in which military objectives can be achieved in a battle field scenario through use of nuclear bullet. Why not use a nuclear bullet? I think to the advantage of India which has come to the scene rather late, why not use a small 100 kg. nuclear bomb delivered by a Mig-23 or a Mirage 2000. You are keeping the warfare confined to tactical.

And all these nuclear theologies which came about thanks to NATO and Warsaw Pact scenario of the 50s and 60s have been smithereens because threshold is extremely important to determine. But there are practical doubts about when tactical warfare will get into strategic warfare which was deeply buried in 1985, 12th of December. That famous summit at Geneva between Ronald Regan and Gorbachev and that they said we shall no more talk about tactical nuclear weapons, and IMF Treaty which followed through.

I think we need to understand this lesson very very crucially and the way to sort this out is to say that I shall not believe in a doctrine of proportionality when we are talking about depth to nuclear warfare. So if you are going to use tactical nuclear weapons against my strike force in a counter offensive scenario, I shall react at the pre-strategic level. This has to be a pre-declared, articulated and what is more important, pre conveyed part of a strategy to your adversaries.

They spent trillions of dollars over these 40 years building up tactical nuclear weapons which they are now committed to completely eliminate. I do hope I have been able to project this particular thought process because this is extremely important when we talk about military dimensions of the conflict.

I do not intend to go over to tactical battle field and say what is important, what is the wind surface, wind pattern if the weapon is dropped because it can happen that we may have a strategy of no tactical nuclear warfare. But what stops the adversary from dropping a so called strategic weapon over a tactical area. After all B-52 was used virtually as a role support weapon in Gulf War. You know B-52 is a classical strategic bomber. So these divisions have now become par se. To that extent certain changes in our operational doctrine will have to be called for. There is no need to go into details expect to flag a few points. Concentration is going to be counter productive yet concentration is the very sound gate through your counter offensive battle.

So how you are going to sort this out. Gen. Malik's problem. But a live problem. You can have a defender probably take on a linear defence jet concentration fire power in decision points possible. But counter offensive is rather difficult. What is the choice then. Very very roughly the choice is then to go in for a great deal of mechanisation stiffened with air mobility and perhaps most importantly a logistic operational change which will also have to be mechanised. So you see a totally new kind of a doctrine. The whole warfare is changed or it is about to change.

The whole problem is of determining the precise intersect between the advantages of dispersion which the nuclear or N-factor has compulsorily imposed on war fighting and the need for concentration which is a vital component of your counter offensive scenario and I think this applies to all your forces, just not to army, but to airforce. The naval forces will have to rethink certain aspects of this.

The likelihood of the use of the weapon by the adversary, I think to me is very low. But conventional forces have to be prepared for any contingency and therefore changes are necessary should there be an elaborate NBC environment. Instinctive gut reaction is nothing elaborate as feasible. So you decide what is the level of NBC environment area which your component of your war fighting that will be feasible in the new nuclear equation which is upon us.

Lastly this question about where do the conventional forces stand vis-a-vis nuclear forces. I remember there were three editorials in national dailies within about 10 days of Pokhran II. That this is an excellent

opportunity for India now to reduce its conventional forces and many people have picked up this trend of thought. But I am not sure whether the answer is a distinct Yes or a categorical No, or a Yes and No. As military people you have to look at it. There is no change in warfare. You will have low intensity conflict. You will have to be prepared for a conventional war because military people do not go by intentions. In the case of military mind it is based on what is the capability of your adversaries, who are virtually your next door neighbours. Intentions can change overnight. So it is there that you have some limitations. But limitation or suppression of forces, I believe that a combination of modernisation, force multipliers, reduction in numbers whilst constantly keeping in mind the level of threat whether it is threshold, whether it is rising, whether it is lowering may be the answer for the management of the organisational structure of the armed forces in the new equation that has arisen.

I think a reference to Command and Control now is necessary. The distinguished gathering would need to keep in mind that a normative command and control structure that we think about is based on firstly what is the number of war heads we need, how much fissile material is available to be able to produce those number of warheads. Lot of calculations have been done. At the lowest end, we are talking about 30 war heads. At the highest end, Gen.Sunderji's back of the envelope calculation and he arrived at 145. But that of course was in the pre-test stage. Which was then at the lower level of probability. The post test probability is now more definitive. To that extent the numbers can be played around.

I think our strategy is retaliatory option which is the character of the armed forces. Some media has talked about an independent force multiplier. This country is great for creating multiple forces. CRP, BSF, CTSF, IGBP, CNF report to the Prime Minister I have talked to the people who have been deliberating this issue. My own reading is that there is no alternative to having a retaliatory option mandated completely to the armed forces.

So coming back to this point about war heads, if we have said that war heads required are 60 to 70, maximum 100, then what is the kind of launchers that we need to have. This is also extremely important. We are

talking about an ideal delivery system. As an air force officer, I would recommend a nuclear submarine, because if you are talking about retaliatory option then that is the weapon almost completely invulnerable. There are problems about it. How do you manage it? What about communication? But that is the weapon. The interesting point to this nuclear submarine route is, that we will take no less than 20 years from the time of decision to develop a nuclear powered submarine with a ballistic missile launch capability and the entire range of systems.

In 20 to 25 years there will be a very heavy pressure for disarmament and I think in that timescale the possibility of the major powers left with only 2000 war heads cannot be ruled out. There is an international movement against the use of nuclear weapons. There is some kind of Arundhati Roy's End Of Imagination. There is some kind of an erosion about this whole concept of nuclear deterrence. Hence this 20 year timescale for developing SLBM. Without time scale, the weapons are now per se brings us to a decade and that decade really speaking is the fighter aircraft Mig-23, Mirage 2000, Jaguar, Agni, and Prithvi.

I think this decade should see us through in the articulated framework of a strategic retaliation. No first use and with the statement that we shall negotiate with the powers about management of the fallout of the Pokhran II in diplomatic terms. If you see the entire picture then perhaps the decade is the only answer and here I think a point which needs to be highlighted.

We have been amiss in putting greater priority on testing. The priority where it rightly deserves the testing is that of the Agni. because we have a point that Pakistan has been a nuclear power from 1987. And may I say that the reality has been that people are talking about that we have also got something from 1990 or so. The testing is only to improve your probabilities. They know that you have a weapon, but in terms of an attested credible positive weapon with which you can deter your adversaries.

I think that may have been the factor, but the other point which I submitted before you is the neglect of the Agni programme. I know there are problems. I wish Prof. Bhide was here to talk about the technological aspects. There are problems of compulsion, missile guidance, again slight

problem of re-entry technology. But that is where the focus should have been rather than saying in 1994 this is it. This was a technology demonstration and we shall not pursue this point any more.

But I think everybody here knows why we took that route to neglecting Agni, but that was a mistake to my mind because they say it will take ten years. Somebody says it will take five to seven years. The fact is that in terms of delivery platform, we do not have a credible weapon today, vis-a-vis China and what is more important, we start to lay the stress where it was due. Somebody said that approval has been given to increase the range of Agni from 2500 kms to 3000 kms. We have to increase the range of the Agni from 2500 to 5000 kms. If you draw an arc at any place in north India as the centre and draw an arc 2500 and 3000 makes no difference. I have drawn that arc. Possibly you need 5000 kms range to be able to do effective counter value deterrence of China.

Now in command hierarchy what is the answer. The answer is it is a political weapon it has to be in political hands and the ultimate political leadership, the Prime Minister of India must be the executive commander for the decision on use of a nuclear weapon. I do not think there will be any doubt in anybody's mind about this in this gathering.

In Pakistan it is slightly different. I believe that Nawaz Sheriff is not in charge of Pakistan. Decisions in Pakistan are not made by the Prime Minister and please do not read too much into this Islamisation of Pakistan. Pakistan's decisions are made by its political establishment comprising the so called President, Prime Minister, Army Chief and a few retired civil servants from the foreign service in Pakistan, Administrative Service and some elements of the Ulemas and these retired people, and you will see Sahebjada Yakubkhan as a permanent feature. He will have a word, no matter who is the Prime Minister.

I will give you an instance. I am doubtful of its authenticity. It came from Pakistani sources to the academic community in Delhi. When the question about Pakistan having to test the weapon came up, bulk of the establishment said No. Nawaz Sherrif was against it. Army Chief Jahangir Karamat was against it. Except for Gen. Arif and one more officer I do not have the name, the establishment said, let us not test because they were worried about the economic consequences. And somehow



Clinton's three or four conversations with Nawaz Sheriff almost made that decision. But Gen. Jehangir Karamat went on a forward area tour at that point of time and it seems that when he talked to some of the senior people on the border they told him they hoped that you are not repeating the 1971 story when they were claiming successes against India right till 15th of December until we saw the pictures of Niazi surrendering in Dhaka. So promptly Mr. Jahangir Karamat comes and says we have to test. Whether it is factual or not I do not know. But what is factual is in Pakistan decisions on nuclear weapon, are in the hands of the Pakistan army. The Chairman of the set up in Pakistan who looks after is the Joint Chief of Staff. But that again is one of its institutionalised story. It is the army chief on nuclear, on Kashmir and to an extent regarding policy vis-a-vis India. But certainly policy on Afghanistan is completely dominated, the last word is that of the army. Of course some of our analysts say good, because in Pakistan that is the stabilising factor. Because Pakistani army is more rational, more civilised.

In fact a story is going round Pakistan armed forces that whenever they see some religious zealots, they are sent to the ISI. Because the religious Zealots are more powerful in the sense more money, more influence and the Pakistani army keeps its balance.

We come to the question back to the leadership in India. They have national command authority which comprises of Prime Minister, the Defence Minister and the Chairman Chiefs of Staff Committee.

This conforms to the 2% rule because while the decision may be preceded by the full-fledged decision at the Apex National Security Council or Cabinet Committee comprising members of the Apex National Security Council or National Committee or whatever may be the preceding issue, the final decision is of the Prime Minister.

Now the question is how does this decision get conveyed to the operational chain for activation of the nuclear force. So that is where the national command authority has to have 2% or more. This is in all countries of the world. If you see United States, Britain, France, Russia, China, every country.

I do also feel that we should have a command force and an alternate command national force to cater for our basic strategy of retaliation.

Because now we have to be prepared to accept the first strike. So the NCP, ANCP becomes very crucial. They have to be underground. They have to be EMP, electro magnetic pulse protected, hardened and in that whole range of communications with the concerned agencies for release of the nuclear weapon.

So the viability of our nuclear forces is an issue which need to be given a lot of importance because dispersion I said in the conventional sense is important but specifically in the nuclear sense for retaliatory option it is crucial. Of course it is easy to disperse small nuclear arsenal. That is the advantage. But the disadvantage is that you are more vulnerable to being wiped out in your retaliatory capacity.

So the answer here is more particularly rail mobile, road mobile Agni, Prithvi and to that extent the aircraft as the delivery option as very very flexible because from Jamnagar to Jorhat, from Thoist to Trivendrum any number of them you can have it. We also need to keep an account. When you talk of minimum deterrence, you are talking about virtually a de-altered, a de-targeted kind of strategy. In deterrence stability is a very crucial element. That is why I was talking about confidence building measures because in the worst case of such a crisis in Europe, the NATO and Warsaw Pact were talking with each other.

There have to be some authentication codes, there have to be permissive action links as these are called, so that there is no accident or inadvertent use of the weapon. These could be electronic, these could be mechanical. Basically the arming devices are what are required to be controlled, given the high tech regime in which it is possible for DRDO to operate. I do not see any difficulty in this because you may also need environment sensing devices because it will only be operating above the earth surface. So if you mishandle the weapon in a storage yard or fumble a weapon at your base the system won't get activated.

Procedural aspect is very important from military planning. You may have a warhead and the delivery platform separate. In fact you should have it separate couple of kms away. May be a helicopter will bring the warhead at the period of crisis reaching a certain stage and then even within the warhead the core of the warhead and rest of the assemblies can be separated. Well known ways to de escalate the alert

status and that I think is a requirement when you talk about a minimum deterrence, it is required and it is a little stabilised.

I have lost a few friends in the army and the navy. I have been in inter services, 17 years of my 36 years service I am open to criticism on the point that the eventual command and control in operational terms must rest with the strategic command which is part of the air force. Why do I say that because I happened to have worn an air force uniform. No, Sir. The fact of the matter is that there is a complementarity which means, the strike weapon it is the aircraft strike weapon, which is inherent in a nuclear weapon retaliatory capability and the reconnaissance surveillance target information system have been operated by the Indian Air Force in the last 41 years.

Air Marshal and I have flown Canberra and that aircraft in 1949 was designed for a nuclear weapon. So there is an inbuilt system which is available. I talk about economic consideration and the criteria of affordability. Then the operational aspect of one more school of thought being talked about at the top end, Government at the moment on the lower level that why don't we have a tri service command. They are very good for inter service cooperation. But is it credible, economically affordable. That is my submission. You can certainly prove me wrong.

This is the right forum to throw such issues into focus. The advantage of the option I have chosen above is that the aircraft will firstly give you dispersion, it is in Allahabad or Jorhat or in Bangalore. Secondly the adversary will not know which aircraft is nuclear. Your switchability is phenomenal and communication are in place, dispersion is in place. All that needs is that the air force will have to be used to a platform. Like we had Agni SAM 2 wings longish range.

The major advantage here is that you can still meet your conventional requirements on a day to day basis of the army and the navy and yet heed your nuclear road. The view also has been expressed that why not make an additional rule in air force and keep a few guys in Allahabad in Central Air Command. I believe that this simply is not the way to address this issue because it is to be a professionalised outlook in terms of not just the testing capability but their readiness status not in alert status but in training because that is where no compromises are possible.

On the question of retaliatory option, should we retaliate within 2 hours, 4 hours, 6 hours. I have argued before as long as 24 hours. But beyond that we will come under increasing international appeals, pressures. We will find it extremely difficult to tackle them. My Guru K. Subrahmanyam talks about four hours. I think Gen.Sunderji articulated, but I am not very sure of this, something like six hours. But that is a matter of debate. The issue is that we do not have to have readiness status like we have in the air force like cockpit readiness, and dispersion readiness of two minutes, 5 minutes.

We do not have to respond in minutes. The financial cost of the proposal that I have mooted would be very very limited because you actually have to reallocate Central Air Command in resources. The physical assets on the ground exist. Communications will of course cost money. I do not think there is a major cost in the strategic command concept. Of course cost of the overall thing when you look at it in terms of weapon development, in terms of Agni, development of Prithvi 250, certain numbers that we need, that is an important consideration.

They have varied from a figure in 1987 of 161 thousand crores to a figure of 8000 crores which was quoted about 5 or 6 years ago. Interestingly the CIA made a projection on what is the cost of Indian Armed Forces. They make a projection on everything. And they were talking about some 12000 to 15000 crores of rupees and the Office of the Net Assessment which is also vested with these kind of studies surprisingly came very close to CIA estimates. It is like making estimates of Chinese Defence expenditure. Somebody said 50 billion, 10 billion every year. So the figures in US dollars can vary between 10 and 55. Nobody knows.

So there is a problem there. I have tried to put forth before this very professionally distinguished audience a few points pertaining to what needs to be done in the range of requirements for establishment of a credible nuclear deterrent on the minimum deterrent posture which we have chosen.

I have tried to project to you the operability of the strategic deterrence and I would like to say that I am optimistic. If anything, it will stabilise the relations between India and Pakistan and India and

China. China may take a little while because they take time to adjust. Chinese were completely and totally shell shocked by the decision conveyed about that afternoon activity at Pokhran on 11th of May. For 72 hours there was not a word, not even by the Chinese academia, not even by Chinese media. There was just no reaction. They have been given to believe that India will never have the gumption to test and what is worst that the Chinese could never never believe that India can show the range of technological capability that we demonstrated that afternoon. They could not believe. They always had a respect for our technological capability. I went to China about 8 years ago. In fact this was the first defence contact between China and India after 1958, excepting the years of war when there was no contact and every Chinese defence man particularly air force I talked to admired India's technological capability as an input to the contention that they could not believe but I do have a conviction that the Chinese are very very astute and they will come to see the reality of Indian deterrence and they will come to terms with it and to that extent I do see peace and conflict as part of strategic deterrence option operating.

Thank you very much.

**CLOSING REMARKS BY AIR MARSHAL (RETD)  
S. KULKARNI**

Ladies & Gentlemen. I am here just to convey my very sincere thanks to both General Pendse as well as Air Marshal Kak for making this seminar worthwhile and fairly educative. The kind of interest this has generated is indicative of the very comprehensive coverage that both of them have given to their respective subjects.

I would like you to kindly join me in conveying our very sincere appreciation to our speakers today that is General Pendse and Air Marshal Kak.

## SUMMARY OF DISCUSSIONS

Pokhran II - the Shakti tests of 11th and 13th May, 1998 have upset the plans of the nuclear hegemony to perpetuate their nuclear monopoly and created waves worldwide. A price has to be paid by every nation that seeks a change in status quo. This is inevitable if the nation wants to succeed and rise in stature in the international environment. Consequently, India is being subjected to pressures, threats and sanctions from many powerful quarters. Bogey of imminent Indo-Pak nuclear flare up, coupled with much disinformation is being raised. The Seminar focussed on the technological and military implications of Pokhran II and its politico-economic repercussions. The seminar is very timely. It evoked a very enthusiastic response. The main speakers brought a wealth of information to the discerning seminar participants who asked pertinent and searching questions and made relevant comments. At the end a general consensus emerged on the following lines :-

- Technology denial by the US and other developed countries spurred indigenous research and technology acquisition efforts propelling the country towards greater self reliance.
- India's nuclear weapon capable status cannot be ignored even though it may not be legally accorded on grounds of devious legal phraseology.
- Clandestine Chinese and US nuclear support to Pakistan and national security concerns compelled India to conduct the Shakti tests in May, 1998.
- Pokhran II acts as a strong disincentive against nuclear as well as conventional Indo-Pak war.
- Pokhran II follow up makes it imperative for India to put in place atleast a credible minimum nuclear deterrent comprising number of nuclear warheads, number and type of launch pads, weapon deployment plans, efficient prompt and secure communication network, command and control set up and prompt response capability.

- After Pokhran II India's no first use declaration and firm commitment to universal nuclear disarmament has been in line with its stance from the very beginning and has given it a high moral ground which is bound to make its impact on other nations.
- The possibility of a nuclear conflict a worse case scenario which the armed forces can ill afford to ignore warrants a rethink of military operational doctrine because concentration of force would be counter productive and yet such concentration is essential for counter offensive operation. Ability to concentrate or disperse at extremely short notice with logistic element becomes vital.
- No first use declaration requires credible and adequate prompt retaliatory capability. The Command and Control in operational terms must rest with the Strategic Command. Considering the imperative of ability to concentrate and disperse with logistic element at extremely short notice, this Strategic Command should be a part of the Air Force which is well geared for the purpose.
- Nuclear scenario does not permit lowering the guard on the conventional front.
- Agni programme with increased range of atleast 5000 kms needs to be pursued vigorously.
- In India, the armed forces are kept out of vital segment of decision making relating to security and defence. This can prove disastrous as it happened in 1962. It is hoped that the National Security Council Task Force will correct this long standing deficiency. Well entrenched bureaucracy is the biggest hurdle in this respect.
- Politicians are too engrossed with elections, populist pronouncements and vote catching gimmicks to pay any heed to matters relating to national security and defence.
- India needs to quickly build up its economic and industrial muscles, its research and technology application capabilities, and vastly improve its poverty eradication and human resource development programmes. Otherwise, Pokhran II will yield only limited dividends.



## CENTRE FOR ADVANCED STRATEGIC STUDIES

### SEMINAR "POKHRAN II AND ITS IMPLICATIONS" (1st September, 1998)

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4. Maj Gen (Retd) KS Pendse - CASS
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| 50. Maj Jewel Antony         | - HQ, Southern Command |
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| 55. Brig (Retd) MM Wanchu    |                        |

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## CASS PUBLICATIONS

SEMINAR PROCEEDINGS	Date of Seminar
1. "Defence and Industry"	17 May 93.
2. "Use of Force in Internal Peace Keeping"	04 Dec. 93.
3. "The Emergence of China : Political, Economic and Military Implications for India"	22-23 Nov. 94.
4. "Human Rights : Law and Order in India"	30 Sep. 95.
5. "The Emerging Security Environment in South East Asia with Special Reference to Myanmar : Political, Economic and Military Implication for India"	2-3 Dec. 95.
6. "Challenges to India's National Security And India's Defence Preparedness"	20-21 Apr. 96
7. "Challenges of Comprehensive Test Ban Treaty Implications for India"	28 Aug. 96.
8. "Preparing to Meet Challenges to National Security In the 21st Century - The Organisational Dimension."	30 Jan. 97.
9. "Regional Security Environment To The North- West of India With Special Reference To Afghanistan."	21-22 Mar. 97
10. "Information Warfare"	24 Sep. 97
11. "Laws of War"	09 Jan. 98
12. "Indian Ocean - The Challenges Ahead"	06-07 Mar. 98

### OTHER PUBLICATIONS

	Date of Publication
1. "The First SLK Memorial Lecture" by Shri P. Chidambaram, Union Minister for Commerce.	Jun. 95.
2. "India 2020 : An Agenda for the Nation" by Maj Gen (Retd) KS Pendse.	Feb. 96.
3. "India : The Nuclear Challenge" by Lt Gen (Retd) EA Vas, Maj Gen (Retd) KS Pendse, Dr. Col (Retd) AA Athale.	Mar. 96.
4. "Second SLK Memorial Lecture" by Dr. P.C. Alexander, Governor of Maharashtra "Citizens Rights and Indian Democracy"	Jul. 96.
5. "Third SLK Memorial Lecture" by Justice A.M. Ahmadi, Former Chief Justice of India "Changing Scenario of The Constitutional Values"	Aug. 97.
6. "Fourth SLK Memorial Lecture" by Dr. Abid Hussain, Vice Chairman, RGICS Rajiv Gandhi Institute of Contemporary Studies "The Changing Pattern of India's Relations with America"	Jul. 98.