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NUCLEAR WEAPON A NECESSITY ?

BY

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WRITING ASSIGNMENT TO THE FACULTY

IN

**FULFILLMENT OF AWC CURRICULUM
REQUIREMENT**

Guide -Dr. Grant Hammond

MAXWELL AIR FORCE BASE

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NUCLEAR WEAPONS - A NECESSITY ?

INTRODUCTION

Ever since 1945, the world has made dynamic progress in the nuclear field resulting in former Soviet Union, UK, France and China joining the select band of nations holding the weapon. There are also positive and undeniable signs of many other nations having the capability but not having demonstrated the same. These include South Africa, Israel and Pakistan. With the success of Indian detonation in 1974, and a demonstrated capability of launching satellites and missiles; there does appear to be a degree of smugness in Indian capability among the international community. It would also be fair to assume that there is a growing desire among many other nations to aspire towards nuclear status. The debate thus is - "is nuclear force a necessity ?"

No scientific development has brought man face to face, with a problem of good and evil, more starkly than the achievement whereby he summoned atomic energy. It threatens to shatter many of our traditional concepts of society. A decision for its use cannot be taken without due thought and careful deliberation. There is thus an urgent need for a thorough and dispassionate examination of the decision to acquire nuclear weapons. What is needed is logic and analysis, and not dogmatism. Slogans do not solve problems, philosophy does not answer the immediate question, nor does morality safeguard territorial integrity and security of a country. That a nation is wedded to peace does not mean that it will not be subjected to aggression

It would be naive to make any generalized assessment of the need for nuclear weapons for a nations which are applicable for all nations. Each state would have to take into account, her own geo-strategic compulsions; threat and capabilities, to arrive at a decision. The aim of this paper is to discuss the important factors to be taken into account for each state in arriving at a broad framework of nuclear weapons requirements.

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THE NUCLEAR WEAPON DILEMMA

Four distinct features characterized the use of the atomic weapons at Hiroshima and Nagasaki. The first was a situation of total asymmetry as far as US was concerned, second, the catastrophic effect of this weapon, third, the possibility of its use in future. and fourth, the probability of nuclear disarmament. The appearance of atomic/nuclear weapons raises many questions. Among these are .What exactly is such a weapon and in what way is it different from other from other weapons of destruction ? Is it a weapon that can be used or is it only a weapon of threat ? Is conventional deterrence effective against a nuclear adversary ? Or as Richard Betts says "if nuclear weapon make the offense more effective and the blackmailers threat more compelling, then nuclear weapon increases, chances of war - more so the more widely they spread."¹

These are weighty questions to which absolute answers are not easily forthcoming. Yet they are major security issues of our times and must be considered in depth - each nation examining them in a manner that best suits its national interest, and thereafter arriving at appropriate deductions

.UNIQUENESS OF NUCLEAR WEAPONS

The basic characteristics of nuclear weapons explosion include blast, light, heat, and radiation are indeed too elementary to warrant any description here. However, after the first trial explosion in the US in 1945, General Mac Arthur was to declare that "this will completely change our ideas of warfare."² At that time, it is unlikely that the world was fully aware of the degree and nature and uniqueness of this weapon. The first point of course is the enormous destructive power of these weapons. The Hiroshima and Nagasaki bombs were powerful enough to force the capitulation of Japan, but the present nature of these weapons have an enormously greater potential of destruction.

The worldwide inventory is enormous enough to destroy the world many times over. Although talks to reduce these have been held and are likely to continue, the actual result till date has been very little reduction to cause any jubilation. After the demise of the Soviet Union the problem has become more acute because the weapon is being held by states with very little stability.

¹ Richard Betts, Conflict After the cold war, p-373.

² McGeorge Bundy, Strategic Deterrence Thirty Years Later: What has changed ? Adelphi Paper No 160, the future of strategic deterrence Part 1, ISS, London, Autumn, 1980, p - 5.

Thirdly, there is a wide variety of means by which these weapons can be delivered ranging from a crude nuclear device placed by hand to an ICBM. Also, these weapons can be delivered with great speed, immense accuracy and with little or no warning. Due to the acute time constraint for their retaliatory use, these decisions may in future have necessarily been entrusted to computers.

Fourthly, these are mass destruction weapons. No matter how they are targeted, enormous loss of innocent lives and property cannot be avoided. Besides, these weapons know no national boundaries, hence the targeted area cannot be demarcated nor can the outcome be controlled completely.

Fifthly, a new dimension to the devastation is the adverse environment effect caused, if used is in large numbers. The consequences of a Nuclear Winter, have by now been well documented. It has been proved conclusively, that the onset of extreme winter conditions that will prevail after the large scale use of such weapons, is more than adequate to destroy world civilization.

Sixthly, it is much easier to deliver these weapons than to organize defense against them. The technology and costs being entailed by US SDI program effectively underscore this point. For most nations, the defense option may be impractical.³

Lastly, victory is no longer a pre-requisite to destruction. Nuclear weapons permit hurting an adversary without first defeating him. They have, therefore, separated the power to hurt from the power to defeat.⁴

VALIDITY OF NUCLEAR WEAPONS

An oft repeated statement is that Europe has been without a war since 1945, due to availability of a large nuclear arsenal by both adversaries. On the other end of the scale, many a war has been fought in the third world wherein neither of the opposing sides had a nuclear weapons. It could be derived therefore, that nuclear weapons are the underlying basis for peace; this however, is too simplistic an approach. There is a need to analyze a range of other factors to conclude about the validity of nuclear weapons. An important issue to be debated is - will such a weapon ever be used again? "For all of their destructiveness, nuclear weapons have become virtually unusable in the military operations of the

³ Ibid, p 5-6.

⁴ Thomas C Shelling, Arms and Influence, P -27.

advanced industrial states possessing them"⁵

The very nature of this weapon, its potential for massive and indiscriminate destruction, have probably been persuasive reasons for its non-use in super power confrontation. A general war involving the use of nuclear weapons, by the major powers is no longer "an act of force to compel the enemy to do our will."⁶ National interests can no longer be preserved through war, when all that a state represents may be destroyed in the process. This fact had been formally accepted by both the super powers when Reagan and Gorbachev jointly proclaimed in 1985 in Geneva, that "Nuclear wars cannot be won and must never be fought." Is this the last word on the use of the weapon? Many knowledgeable critics, on the other hand feel that the nuclear bombs are an extension of the weapon systems available. The nuclear changing strategies, from "massive retaliation, flexible response, counter force, counter value, mutual assured destruction,"⁷ all envisaged using this weapon. The viability of using these in limited wars, low levels of conflict, tactical use and during wars in the third world, have very often been discussed. President Reagan went on record to state that the use of tactical nuclear weapons against military forces is feasible, without leading to a strategic nuclear exchange.

It has been argued that in wars involving the developing countries, there is a stray possibility of the use of the nuclear weapon. K Subramaniam an Indian strategic analyst argues this strongly when he states, "The idea that the bomb cannot be used is absurd, and can arise only out of the willing suspension of all thinking process. The international community did nothing in the case of genocide in Bangladesh and Kampuchea, which were equal to the use of several nuclear weapons. The United Nations did not even discuss the Vietnam war, in which the US dropped more bombs than were used in all history up to then."⁸

Tensions and wars are not triggered by reason or logic - the decision and act itself often are irrational and illogical. This process is likely to continue - as long as mankind remains - such is the

⁵ Brad Roberts, From Non Proliferation to Anti proliferation p - 151. International security, Summer 1993, Vol 18, No1.

⁶ Michael Howard and Peter Paret, Clausewitz On War, P 75.

⁷ Maxwell D Taylor, The Uncertain Trumpet, p 130 - 180, and Lawrence Freedman, The Evolution of Nuclear Strategy.

⁸ K Subramaniam, Indian Security Perspective, 1982, P 207.

build up of the human mental framework - thus wars cannot be ruled out. And in such an environment, the use of nuclear weapon cannot be prevented - as long as they are there, they may be used. To be blind to this reality, and to deny oneself the option and means for appropriate defense, would indeed be suicidal.

Nuclear weapons have proliferated - horizontally and vertically. More proliferation is likely after the destruction of the Soviet Union. The knowledge is going to spread more quickly. It is not likely that this proliferation is entirely due to the proclivities of the international arms merchants. Conventional weapons provide equal, if not more lucrative opportunities. Yet, if nuclear weapons proliferate, it is because they are perceived to have valid roles in the political, security and diplomatic areas. In the political field the weapon is believed to endow a nation with an enhanced position in the world through nuclear deterrence security. In diplomacy, it is considered a weapon of coercion, that strengthen the ability of a country to pursue its diplomatic policies, short of open war. These aspects are discussed in the subsequent paragraphs.

FUNCTIONS OF NUCLEAR WEAPONS

Political

It is not purely coincidental that the five permanent members of the Security Council are nuclear powers. One of the factors determining acquisition of the weapon, is the automatic weightage that the nation gains in the decision making process affecting the globe. Other critics, however, feel that this is not entirely true in all cases. For example, the position of UK has consistently declined and her nuclear capability does not help in arresting this trend. Japan and Germany are often cited as examples to counter the theory of power accretion through nuclear weapon capability. Especially with proliferation of nuclear weapons powers, "it is debatable whether nuclear weapon capability per-se will confer a higher status in the comity of nations."⁹ In the same context, one has to consider the negative impact of not possessing nuclear weapons, as perceived to denote inadequate strength and will, to pursue the international power game.

Security

Europe has completed over four decades of peace, and some experts are quick to point out that this is

⁹ Brad Roberts, From Nonproliferation to Anti proliferation, IS, Summer 93, Vol 18, P - 155.

due to the availability of nuclear weapons by opposing sides. On 18 Feb 1988, Prime Minister Thatcher declared, "I want a war free Europe. A nuclear free Europe, I do not believe would be a war free Europe. The nuclear weapons have kept peace in Europe for 40 years." This is a persuasive argument, because even a short general war would be many times more expensive than a heavily armed peace. The validity of nuclear deterrence, therefore, needs to be examined in greater detail.

A deterrent strategy requires three distinct components as follows:-

- (a) Capability or assured ability to strike and inflict unacceptable damage to the adversary. This capability is often referred to as a second strike capability. There are many ways of achieving this.
- (b) Credibility, i. e convincing the opponent not only of ones capability, but that the nuclear weapon will actually be used, if the situation, so warrants. This involves national will, an organizational structure to take timely and appropriate decisions and assured means to pass the orders to the strike elements.
- (c) Communication, which is essentially a diplomatic function that ensures the transmission of necessity signals and messages to the adversary, in a manner that it leaves no doubt in his mind regarding the consequences of a misadventure.

Wars have occurred in the past essentially due to miscalculation in primary estimating the adversaries capabilities. Nuclear weapons with both countries, increases the uncertainties, which then decrease the risk for miscalculation. Four factors characterize this uncertainty. First, is the threat of retaliation. Second, the possibility of escalation. Third, that as a consequence, things could go out of control; and lastly, if they do, all would be lost.¹⁰ It is this extreme uncertainty, in which nuclear deterrence is an important constituent, that has been responsible for preventing war in Europe not just nuclear war but conventional war as well.¹¹

Notwithstanding the above, events after the second world war have proved that nuclear weapons capability has neither prevented nor protected such powers from war. Many nuclear powers have engaged in conventional combat after attaining nuclear capability. On two occasions non-nuclear powers have

¹⁰ Robert J Ark, "Between Assured Destruction and Nuclear Victory, In Nuclear Deterrence - Ethics and Strategy, P-125.

¹¹ Bernard Brodie, War and Politics, p-430.

actually initiated wars against nuclear powers. China in Korea against the USA, and Argentina in Falklands against UK are cases in point. On the other hand nuclear weapon powers have scrupulously avoided antagonizing each other (except in the case of the USSR - China conflict). From this analysis, some strategists have argued that at least in the super power field nuclear weapons are not only benign, but actually beneficial to peace.¹²

The possession of nuclear power, specially in relation to a non nuclear adversary, is a powerful tool of intimidation. This potential is also, not entirely theoretical. It is an element of big power strategy that has been actually practiced fairly often, though not published as such.¹³ Consequently, there is not only much ignorance, but also complacency over the issue. An impartial analysis substantiates that such coercive diplomacy or force without war have produced results favorable to the nations concerned. Another advantage of threat of force without actually using it, is that it does not attract any odium in the international community, and hence can be practiced with impunity. It is wrong therefore, to assume that the nuclear weapon is merely a paper tiger. Especially Mao, who coined this phrase, had no doubt about its effectiveness. The enormity of China's decision to go nuclear, can only be appreciated in the backdrop of the country's internal condition in the mid 50's. The situation in the countryside was chaotic, the Great Leap forward a dismal failure, agricultural production an all time low and reports of large number of starvation deaths. Yet, China spent \$ 4 billion on the nuclear program. Mao well knew, that China could have no real independence, if she could not stand up to the coercion from a nuclear power. "No doubt these weapons offer high political and military leverage to developing states fielding them."¹⁴

EXAMINATION OF THE OPTIONS IN A SITUATION OF ADVERSARY POSSESSING NUCLEAR ASYMMETRY

The problem that needs to be analyzed is - does a situation of nuclear weapon asymmetry degrades the effectiveness of a conventional deterrence ? If it does, how can a non nuclear weapon state, minimize or eliminate such a degradation ?

¹² Kenneth N Waltz, The Spread of Nuclear Weapons More may be Better, Adelphi Papers No 171, Autumn 1981, Edited by Richard K Betts, Conflict After the cold War, p- 371-382.

¹³ Brad Roberts, From Nonproliferation to Antiproliferation, P-143, IS, Vol. 18, Summer 1993.

¹⁴ Ibid, p-155.

National security, whether under a conventional or nuclear scenario cannot be considered in isolation in military terms alone. It must take into consideration the geographical location, the foreign policy in which the security needs are interwoven (in the context of nuclear warfare it must include the possible escalation and retaliatory aspects, seeking nuclear guarantees a protective shield etc.) diplomatic, political and military profiles, the threats to security as envisaged in the short, medium and long term, as well as the whole gamut of national resources which include financial, material, economic and industrial potential, scientific and technological advancement, communication, transportation and manpower resources. Last but not the least, the maintenance of national morale and motivation, assumes added significance in the nuclear context.

There are two distinct and divergent camps on the issue. The first feel that security can be provided by conventional forces, and that further proliferation of nuclear weapon is not necessary; and the second camp argues that depending on the threat and other compulsions, a nation should pursue the nuclear option. There is further claim that a diffusion of the nuclear power centers will usher in international stability. While analyzing the arguments justifying the continuance of maintaining only a conventional force, the factor of the immense dangers of the uncontrollable nature of nuclear weapons will be highlighted

CONVENTIONAL DETERRENT ADEQUATE

The theory of deterrence in the nuclear era produced a new phenomenon in its scope, trends and procedures. It has always been necessary to counter aggression, but the necessity to counter the outbreak of any major conflict, which may escalate to a nuclear level, is a problem peculiar to modern times. As only a few states possess nuclear weapons, it is all the more necessary for non-nuclear weapon states to think and plan for a viable conventional deterrence to meet the nuclear challenge. From ancient Greek to the 19th century, deterrence was based on common sense and logical reasoning. The aim was to check the adversary's military power and not to destroy him in toto. Hiroshima and Nagasaki appeared to shake the traditional assumption about warfare, and created an impression that major conflicts would lead to annihilation. Thankfully these apprehensions have been belied. The threat of nuclear weapon use did not prevent North Koreans from moving South or the North Vietnamese in accepting their challenge of a

nuclear adversary. Whilst conventional weapon powers have withstood on their own in some cases, there is a growing tendency among developing nations to acquire nuclear weapons and stick together. This is alarming and could lead to dangerous situation. The trend needs to be arrested and there are enough reasons to support the viability and rationale for conventional defense forces. The situation in former Soviet Union states calls for a greater scrutiny. These nations the Ukraine and Kazakastan in particular have nuclear weapons and yet are scared about the designs of Russia, their former rulers. They have to maintain certain amount of conventional forces to safe guard their security.

Progress Towards Nuclear Limitations. There are some critics who believe that the recent trend towards limiting nuclear weapons would in the foreseeable future culminate in the substantial reduction of such weapons. In such an emerging world scenario, it would appear futile for the have nots, to divert scarce resources towards building up nuclear capability. Also, international pressure would force the destruction of such stock piles, for the greater cause of world preservation.

Can the Weapon be Used ? It has often been argued that in an asymmetrical nuclear weapon situation, there is a probability of such a weapon being used. This view is substantiated by the historical example of the US use of the nuclear weapon in Hiroshima and Nagasaki. Critics then apply this theory to the Indo-Pak scene and maintain that it is unreasonable to assume that Pakistan will exert greater restraint, than did the USA in 1945. This presumption is meant to buttress the claim that there is compulsion enough for India to acquire nuclear weapon capability. In this context firstly, the critics have lost sight of the lessons of Hiroshima and Nagasaki holocaust and the historical perspective for bringing to an end of the war; and secondly, in Indian context China's nuclear military attitude towards India, gives no credence to support this theory.

Effectiveness of Tactical Nuclear Weapons

The nuclear weapon states in the west and few former Soviet States have an arsenal of nuclear weapons; ranging from tactical to long range devastating strategic nuclear weapons (SNW). The potentially emerging nuclear states cannot aspire to attain comparable levels in a short term perspective. What would perhaps be possible is the ability of develop a modest range of TNWs.

It must be understood that while there is sufficient scientific and technological evidence and data

regarding the extent of devastation of SNWs, there is no such known evidence, so far, in regard to TNWs. There may have some tests under simulated battle conditions, yet there is no evidence to suggest the tests in troops maneuvers or exercises. The reasons for this are obvious - it may subject one's own troops to avoidable hazards.

TNWs would imply that nuclear warheads be fitted to weapon systems utilized for conventional yields. This is possible with suitable modifications. However, there is a vexing question of determining the dividing line between TNWs and SNWs. In the nuclear context there is no clear cut delineation between the two. The "use it or lose it" option may hasten nuclear war.

A major disadvantage of TNWs will be the delegation of authority to commanders. No formation commander, engaged in operation would want his initiative curbed or interfered with. What then will be the criteria for using TNWs? What will be yield and how will targets be designated? Reactions of commanders for its use cannot be uniform - thus inviting disaster.

While the acquisition of both SNWs and TNWs confer optimum capability, the sole possession of a few SNWs will only slightly dilute this posture. It must also be admitted that attaining such levels in a short term perspective appear impractical. On the other hand an attainable TNW, with its comparative inherent limitations would not ensure security. The problem, therefore, is one wherein either one should switch to a full scale nuclear posture with all its attendant political, financial, military and human ramifications; or retain the conventional posture. A half way measure of acquiring TNWs, would appear to be politically and militarily unsound.

Keeping in view the historical position of nations having nuclear capability, it is seen that invariably there has been a continued effort to improve the conventional force also. To that extent the question about TNW as the substitute for conventional force is itself illusory and hypothetical, as without a viable conventional defense, it may not be possible to have a viable TNW. Conversely however, if a nation maintains a viable conventional defense, TNW may be unnecessary

Nuclear Blackmail

It has been contended that a nuclear weapon nation could resort to nuclear blackmail against a non-nuclear nation, thus forcing the latter to accept terms contrary to her perceived national interest.

Undoubtedly, the possession of nuclear weapon has an impact on those nations that do not have them. Yet, the bluff can be called by strong will of an economically strong and unified nation. Afterall, the possession of nuclear weapon by super powers did not alter the course of wars in Vietnam, Korea, West Asia or Afghanistan. The issue of nuclear blackmail is therefore outdated and without much validity. In an era of détente, the main theme was one of reducing international tensions. The super powers armed with sophisticated nuclear warheads tended to restrain themselves from using nuclear weapons against non nuclear adversaries. With the demise of Soviet Union the situation has changed radically. Russia can not influence world affairs any more and it has become incumbent on USA to diffuse regional tensions as far as possible.

While on the issue of blackmail, apprehensions are often expressed on the likelihood of Pakistan blackmailing India. It is doubtful, whether such a blackmail can be effective. Given India's size and force levels, India is quite capable of holding on its own in such a scenario. Further the likelihood of the use of the TNW by a third world power is unlikely to be approved by the community of nations. It is also unlikely that the verbal threat of a small nuclear weapon adversary will have any credibility because of the dangerous risk involved in using such weapon.

Preparation Against Nuclear Threat

Till date, only a few states possess nuclear weapons; a few others may be termed threshold nuclear powers. For the balance of non nuclear states, it appears necessary to think and plan for viable conventional deterrence to meet the nuclear challenge. Amongst other things, it is necessary that such nations prepare themselves, so that they are not caught off guard should a situation so arise. The other important aspect in this regard is that the deterrence and preparation is against an adversary possessing a few nuclear bombs. In such an eventually, the aggressor does not have necessary wherewithal to destroy the defender, if possessing adequate conventional forces - duly trained, could still withstand such an assault and regain the initiative.

Under such circumstances, there is enough justification for maintaining a highly mobile and powerful army based on conventional weapon. The military education and thought process however, need not remain static and aspects relevant to nuclear warfare must be implemented in training. Such

measures may include the conduct of land battles with highly mobile, self supporting and self contained battle groups, wider tactical dispersion; greater necessity of protection flanks to prevent enemy from outflanking nuclear strike zones; development of a high degree of leadership and initiative amongst junior commanders; greater development of surface communication ability to facilitate flexibility and switching forces, perfecting technique of vertical envelopment, speed, reliable and integrated communications, and attunement of rank and file to overcome the psychological barrier of a nuclear strike

UNCONTROLLABLE WEAPON

A fundamental assumption of western strategic writings on nuclear weapons has been the nuclear weapons are not safe in the hands of developing countries. That there is an element of ethnocentrism and even racism in this assumption is not the most shocking feature. What is shocking is the belief that they were safe with the five nuclear weapon countries. These western assumptions and arguments were faithfully and unquestionably repeated by many third world apologists of the nuclear weapon cult.

Adequate documented proof is now available about the fallibility of the so called western "fool proof" systems. That however, is not the thrust of the present argument. Can such weapons be safe, no matter in whose hands they are in ? Moreover, in the present circumstances the nuclear weapons in the hand of former Soviet Union nations, not having sufficient economic background to service or deactivate the powerful weapons may cause serious worries to the world as a whole. That however, is not the thrust of the present argument. How strong can the political control be over the nuclear weapons by the governments of nuclear powers ? Can the command and control organizations be capable of enforcing the tasks required of them ? Can these organizations prevent unauthorized use and accidental nuclear wars ?

These questions are very important in the light of two inherent features of nuclear weapons; firstly, the unprecedented destructive powers, and secondly,, the uniqueness of the organization of nuclear forces. Because of the perceived vulnerability to a surprise attack by the adversary, nuclear forces have to be kept in a state of continuous readiness. This continuous readiness should not be confused with nuclear alerts. This all time mobilization of nuclear weapons distinguished them from all the previous weapon systems, which were mobilized for use only in crisis. This meant continuous control of nuclear weapons. The organizations designed to control such weapons have no doubt checks and balances and many

redundancies. The tragedy is that these highly complex organizations may be utterly incapable of coping with a nuclear conflict; and worse still the internal dynamics of these organizations themselves in times of crisis could lead to a war.

In peace time too, there are a large number of instances when the complex systems have almost led to catastrophe. The problem is not only the systems, but the human element itself. The latter perhaps is the weakest link in the chain. A combination of both these weakness leads to highly vulnerable consequences as are described in the subsequent paragraphs.

Nuclear Accidents

Human reliability problems tend to worsen as nuclear weapons reach in the hands of various unstable regimes. Their geographical dispersal spreads, and large numbers of personnel involved with nuclear weapons spread all over the world. There are innumerable ways in which problems of human and weapon systems reliability can interact with the enormous stockpiles of nuclear weapons and may be some of them are unattended at present can produce disastrous situations. The US DOD has revealed that there were number of accidents involving nuclear weapons during 1950 - 1980. While Pentagon admits only 32 the other estimates far exceeds that .

Fortunately, until now, none of the accidents have led to an actual nuclear explosion. However, such accidents in time of international crisis, could raise serious problems of command and control. For example, an accidental explosion near the territory of nuclear weapon power, would obviously be interpreted as a very provocative action, leading to serious nuclear alerts on both sides, with possibilities of nuclear war and consequent disaster.

Loss of Physical Control

The provision of physical security is also a key factor of concern, in the growing proliferation of nuclear weapons. Theft, terrorism, access by unauthorized personnel, military coups and civil wars, could result in loss of physical control of weapons. This danger is equal for both developed and developing countries; notwithstanding, the former assertions that such weapons are safe in their hands. Past records have confirmed that the performance of nuclear powers to this end has not been very encouraging. For example, in 1978, the FBI arrested three persons for plotting to steal a US submarine. The plan called for

firing of one nuclear missile against an American city. There are numerous other incidents had caused concern. The fact therefore that as the terrorism has grown out of proportion and regional imbalances has taken an ugly shape, can we continue to take chances of holding the entire world for ransom. The solution does not lie in providing greater security to the nuclear weapons, but in total denuclearization.

False Alarm

False alarm by the command and control system have been considered by a number of observers as the most likely triggering mechanism for accidental or uninitiated nuclear war. And false alarm have occurred many times. The nuclear alerts in response to false alarms raised widespread fears of an accidental nuclear war in the past. Though the scenario has changed to an extent this possibility can not be ruled out totally. It is a matter of relief that none of these false alarms led to an initiation of nuclear exchange. It has often been argued that risk of an accidental or uninitiated nuclear war due to accidents, human error and equipment malfunctioning is extremely small, almost close to zero. It may be a statistical probability. But the various errors, accidents and failures referred to indicate is a far deeper problem about the very nature of nuclear weapons and their command and control organizations. The present systems have over the years enhanced the ability to cope with simple and isolated errors, in view of the highly complex system which provides at every layer, checks balances and redundancies. But catastrophic failures involving large organizations like the Three Mile island incident are not triggered by isolated incidents but a series of compound and highly correlated events, generating a sequence of human, bureaucratic and technical reactions. This led to incorrect diagnosis of what was going wrong, resulting in initiation of actions that had nothing to do with the problem, or even worse, exacerbated it. In this context, Paul Bracken argues;

"while complexities of a C3I system has made us safer from accidental war, it protects us against the discrete, isolated failure. Multiple errors are different matters altogether, because they invoke reactions by humans and involve organizational procedures and computers. The problem with compound accidents, especially those involving human behavior, is that the number of possible reactions is enormous and no design can protect against all of them. The likelihood that multiple events will lead to trouble, increases when there is increased military activity. Thus, when forces are placed on alert, the complexity of warning systems may not only cease to provide redundancy, it may also amplify mistakes."¹⁵

¹⁵ Paul Bracken, The Command and Control of Nuclear Forces, p -53

It must also be understood that while C3I might cope with discrete stress, the system is unable to cope with them, when they occur together in time. Even disconnected but concurrent events might be seen as a pattern leading to increased levels of alert during a crisis.

Once a warning has been raised and intelligence mechanisms are stimulated beyond a threshold, or once a certain level of alert has been ordered by political or military authorities, the situation may alter dramatically. The interdependencies and synergy's that were safely ignored during the peacetime begin to enter the picture. Tight coupling of forces increases, information begins to inundate HQs, and human, programmed computer, and organizational responses are involved. Each response, whether it arises from a human operator or computer, is intended to meet some narrow precautionary objective, but overall effect on both sides might be to aggravate the crisis, forcing alert levels to be notched upwards. Although each side may well believe it was taking a precautionary move, the other side may well see it as a threat.

Human Fallibility

The problem of human fallibility has extremely dangerous consequences for the command and control of nuclear weapons, and these can never be fully rectified.

Analysis

To those who are enamoured with the manufacture and possession of nuclear weapons, it will be prudent to remember that there will be no victors in a nuclear war - it will only be a pyrrhic victory brought about by a desperate and irresponsible decision.

THE NUCLEAR WEAPON - A NECESSITY ?

Before examining the necessity of a nuclear weapon, it is worthwhile recapitulating causes favoring spread of such weapons. These have been examined by many analysts and the main causes are as follows:-

- (a) To counter the weapons of the other power and usually by imitating it. The Soviet Union and China fall in this category.
- (b) Under the fear that a nuclear ally may not retaliate when a hostile power attacks; the French

nuclear capability drew its motivation from this factor.

(c) A country without nuclear allies may want such weapons, specially if its adversaries have the nuclear weapon; the Chinese nuclear weapon constitutes a case study of this cause factor. It also had motivation of the above kind i.e. the reluctance of a nuclear ally to use its weapon potential in its interest.

(d) Out of fear of present or future conventional strength of adversary power.

(e) It may offer a cheaper and safer alternative or running economic ruinous and militarily dangerous conventional arms race.

(f) For offensive purposes.

(g) Enhancement of international understanding and prestige to provide greater leverage in international affairs. This is the justification offered by the British.

Nuclear Weapon Requirement for a Short War

Western powers prior to cold war did not have a conventional stock pile for war for more than thirty days. This was based on presumption that a war in Europe could not last through this period, before it would escalate to a nuclear level. Gearing up additional capability would have taken considerable period of time. For these reasons conventional war amongst industrialized nations cannot last long in present days. This constraint is also applicable to industrializing countries, dependent on import of weapons and equipment.

If conventional wars are likely to be short, sharp, swift and limited in scope, the element of uncertainty in the calculus of deterrence gets considerably eroded. The power that wants to alter the status quo has to make its calculations of costs, risks and gains in terms of war limited in aim, scope, period and area. The initiator of war has certain advantages in terms of surprise, area and timing. He is also aware that even if the aim is not fully achieved, the cost and risk in terms of a counter attack are limited. In such a situation, the defender or the status quo power must be in a position to have extra margins of force, as also launch it without loss of time; so that by the time the war comes to an end, it will be in a position to neutralize the possible gains of the attacker. The requirement thus is of an "adequate extra margin" and not "marginal extra margin."

On these considerations, one may superimpose the factor of asymmetric possession of a small arsenal with the attacker. The advantage now is not only of surprise but total flexibility in deployment of her force. Having achieved the success, even if the defender is in a position to launch a counter offensive, the attacker can deter such an action with the threat or actual use of nuclear weapons. The disadvantage of not possessing a nuclear weapon in either of the two scenarios is far too obvious. Is there a guarantee that nuclear weapons will not be used against non nuclear states ?

The three sponsors (USA, USSR and UK) of the NPT had committed themselves in 1968, that they would seek immediate security council action to provide assistance to any non nuclear weapon state, in the event of the latter being a victim of an act of aggression in which nuclear weapons are used. This is cited as reason enough for non nuclear states to rest content about their security. It is not clear as to what action can be taken after the nuclear weapon has been used. Also the history of the last four decades provides abundant evidence that the Security Council is not in a position to take meaningful action. Some nations are already reported to have developed clandestine nuclear arsenals; even if more join the select band it is not quite clear what the Security council could do to prevent such a situation ?

Therefore, it will be unrealistic to assume that the Security Council can act to prevent a nation to use a few bombs or resort to a nuclear threat. It is quite possible that the aggressor may have as its supporters,, one or more permanent members of the Council and with the use of the Veto, the entire principle is negated.

In the light of this historical experience, it will be extremely naive to assume that a nuclear threat - with all its ambiguities - in a situation of asymmetry can be ignored by a conventional power nation. The latter would lay itself open to very serious adverse consequences in the event of hostilities. One must also keep in mind the impact on the morale of the armed forces and the civil population.

Interventionism

In our examination in the previous chapter, we had concluded that one of the reasons for peace in Europe has probably been due to the region possessing the deadliest nuclear weapons. If this were true, then one logical approach to eliminate war in the world would be to spread nuclear weapons. The fact that the pressure are to reverse, favoring the maintenance of the exclusivity of the five nuclear weapons

powers, and taking all possible measures against horizontal proliferation, suggests that the truth is quite different and the motivation flow from considerations of improving security and stability of world order.

Historical evidence of the past four decades also brings to fore the interventionism policies of the great powers; and this move in the back drop of nuclear weapons, perhaps constituted the greatest source of insecurity for developing nations. An important dimension of intervention and international insecurity is the threat of use of nuclear weapons, explicit or implicit. The most noteworthy point is that the threat exists on a permanent continuous basis on account of their very existence. This in itself obviates the need for utilization of nuclear force for coercive diplomacy in a direct expressive form.

The strategy of interventionism though a theme of the past, it contained an inherent risk of miscalculation due to , demand of time sensitive responses; inadequate intelligence or faulty data or inaccurate interpretation; or due to difference in national response and psyche of developing countries. The end result of high risk of miscalculation is the likelihood of erosion of war threshold and this could constitute in subsequent erosion of nuclear threshold. The incentive to use nuclear weapons in third world countries might have derived strength from an assessment that such an act would not necessarily invite a nuclear response from the adversary super power. President Reagan is reported to have expressed the view in 1981 that use of TNWs is feasible without necessarily escalating to strategic nuclear exchange.

The effect of the interventionism led to certain degree of instability, in the effective regions. Two likely effects that followed were:-

- (a) Greater degree of military control in the third world states.
- (b) Greater incentive for acquisition of nuclear weapons. In particular, perception of a hostile neighbor as a nuclear or clandestine nuclear weapon power could generate internal domestic pressure propelling the leadership towards nuclear weapons, and this in turn may push the neighbor to match the response. After all, this is exactly how the nuclear arms race of the super powers started - the same scenario and compulsions could thus quite logically fit into the case of the developing countries. And although there was an apparent framework of peace and security between hostile powers, this, in essence built fundamentally on insecurity caused by the possession and possible use of nuclear weapons.

Under the circumstances the question arose, what could be the legitimate means of defense available to a country facing great power intervention ? Since it was unable to meet the intervention threat at the conventional level, the options could narrow down to chemical/biological or the nuclear weapon. The former would impose its own parameters of limits and constraints. So it could be hypothesized that a third world nation could perceive acquisition of nuclear weapons as a legitimate means of defense against intervention by a major power.

One may argue that such small nuclear forces could be neutralized by superior power with pre-emptive strike. However, pre-emption against small nuclear forces is not easily attainable, and the command control structure for their effective employment not as susceptible to degradation as compared to larger forces. Concealment and camouflage of limited quantity of nuclear would be easy.

Such small nuclear forces may not provide legitimate defense capability to the nation concerned, but in fact may be the only credible and viable defense. Even a small but credible nuclear capability is likely to prove a powerful deterrent to interventionism. Legitimacy of use, credibility and efficacy would flow out of a number out of a number of factors; use of threat of use against the intervening military force; in case of naval-air task force (an attractive target) collateral damage of nuclear attack on it would be virtually non existent. A counter threat on nuclear weapons by the great power may invite adverse international reaction. The risks for the great powers are also proportionately high. For, while a peripheral defeat may be highly embarrassing , it would not effect its survival; nor would a withdrawal in the face of nuclear threat by the target country constitute a sufficiently disastrous phenomenon to trigger a strategic nuclear response. One may well imagine the course history would have taken if Argentina possessed a few nuclear weapons during the Falklands crisis. One thing is very certain; the uncertainties of response would have been very high, raising insecurities for an attacker far above the level created by the employment of a handful of sea-skimming Exocet missiles.

Stability of Mutual Deterrence at Regional Level

At another plane, that of the regional conflicts involving third world countries, even if both sides have only conventional forces, the weaker state could develop a greater incentive to develop or obtain a nuclear weapon or hint at such a capability. The rational for this is the enormous destructive power,

which could be perceived as a favored military equalizer. The weaker state also realize that the option of going nuclear is also attractive for the other state. As Ted Greenwood sums up, "any state engaged in a border dispute or regional confrontation with a nuclear armed state would have an incentive to develop its own nuclear capability. The purpose would be to both neutralize the political and military advantage of the opponents nuclear weapons and to deter attack by conventional forces."¹⁶ The previous unequal balance therefore would inevitably be restored; albeit the balance would now operate at a much higher level of violence and enhanced degree of uncertainty. This would raise the threshold of conflict and may result in stability of mutual deterrence; since nations with limited nuclear arsenals will hardly risk an escalation of conflict to the nuclear level except when their national survival or vital national interests are at stake. "There is also an argument that the accretion of ever more powerful arsenals in the developing world may make war there less likely. New nuclear states will confront the possibilities and feel the constraints that present nuclear states have experienced."¹⁷

Role of Asymmetry

Historically, asymmetry in military capabilities and performances has been responsible for victory or defeat in war. And greater the asymmetry, the more conclusive and even dramatic has been the outcome. Asymmetry can be created through exploiting the dimensions of time, space, technology and or tactics and strategy. This advantage is generally sought to be achieved through three fundamental factors; firepower, mobility, and the strategy to provide freedom of action.

Essentially, military asymmetry creates shock effects, both psychological and real, thus leading to destruction and disruption which, if properly exploited, leads to victory for the side in whose favor the asymmetry operates. These, have profound impact on the policy options of a state in defining response to challenges, present and future. In fact military asymmetry has a major visible impact on the image of relative power of nations.

Nuclear weapons have introduced a new and awesome dimension to the role of asymmetry arising out of the magnitude and nature of destruction.. This dimension moves beyond the purely military impact

¹⁶ Ted Greenwood, Et Al, Nuclear Proliferation, Motives, Capabilities and Strategies for Control, p-41.

¹⁷ Brad Roberts, From Nonproliferation to Antiproliferation, IS, Autumn 1993, Vol 18, p -158.

to psychological and political planes. It is this fact which has led many experts to insist that it would be wrong to treat nuclear weapons in the conventional sense; and that they are not instruments of military force, but are in fact political weapons. Any nation thus desires to maintain its integrity, independence, and legitimate voice at appropriate levels, must have the backing and option of the use of nuclear force.

Can Nuclear Asymmetry be Ignored ?

In the light of historical experience, it will be extremely naive that a nuclear threat with all its ambiguities in a situation of asymmetry, can be ignored by a non-nuclear nation or that a conventional superiority can be an effective deterrent. A likely scenario can be analyzed to understand this issue.

The very fact of asymmetry is likely to have an adverse impact on the morale of the forces as well as civil population of the country which does not possess the weapon, and enhance the morale of the opposite side. Further, when the nuclear weapon power initiates the attack to alter the status quo, it will have maximum flexibility in regard to concentration of force and choice of action of penetration. Therefore, it is realistic to assume that the attack will be able to penetrate some distance. The defender will face number of dilemmas. With the full knowledge that the adversary has nuclear weapons, can she afford to concentrate the forces, either to halt the enemy thrust or for counter attack ? It is also quite possible that the nuclear weapon nation, which is the aggressor, may simultaneously launch a major psychological offensive. It may emphasize that its aims are very limited - some territory or a political objective such as a plebiscite over a disputed territory, and if the adversary does not stop and negotiate, she will be compelled to use all the technical means at its disposal, without specifying what they are. Fifth columnists may spread rumors that some cities or installations will be subject to nuclear attack. It could also be possible to announce over the radio threats to her adversary's civilian population, again avoiding a direct reference to the nuclear weapon. One can easily imagine the impact of such psychological warfare amongst civilian population. A mass scale movement and panic is bound to be set into motion thus adversely effecting the operations. It is thus noticed, that the nuclear weapon state will be able to inflict defeat on its adversary purely through psychological warfare, without having to resort to either specific threat of use or actual use of nuclear weapon.

The next scenario that could be examined is the threat of use of a nuclear weapon . If the advance of

the anti status-quo nuclear power has been contained, that by itself will not serve the purpose of the defending nation, since the aggressor will still be at an advantage at the negotiating table. This advantage can be neutralized only if the defending nation is able to launch a counter offensive and seize territory which can be traded off against the territory lost. Or in the alternative, the aggressor should be pushed back completely. If either of the two courses are attempted, to be initiated, the aggressor power may threaten to use the nuclear weapon. As already mentioned, the defender has difficulties in force concentration. Simultaneously, there could be pressure from the international community to halt the war, which will be to the advantage of the aggressor. The very fact that the nuclear power has been accepted as such by the international community and nuclear weapons considered legitimate, will be factors in favor of the threatening power. There can be no guarantee that the threat will not in fact be executed even before the Security Council meeting is convened, and at such a meeting the aggressor could offer a unilateral cease-fire. Its initial advance and the use of the weapon will give it the advantages to negotiate. In the light of all the historical evidence one cannot see the possibility of the international community inflicting any punishment on the power which has already used the weapon. In such circumstances, the defending power will hardly be in a position to ignore the threat and thus probably accept the terms dictated by adversary.

Lastly, a scenario encompassing the actual use of the nuclear weapon itself. It could be used in a number of ways. Firstly, it could be used in ones own territory against a counter offensive force. If this were to happen it is likely to witness the least reaction from the international community. While it would destroy the penetrating force, the collateral damage, if any, will be on one's own territory. Secondly, a demonstration strike could also not likely to earn much adverse comment. The demonstration strike could also be against a military target like a depot with significant military losses and minimum casualties. The demonstration strike could be accompanied by an announcement that unless the defenders accept the terms set, more weapons may be used in a given immediate future time frame. The effect of such a threat could be well imagined. The dislocation and loss of morale will not have much resistance in attaining further penetration and consolidation.

The Cost Factor

It has been contended that the conventional deterrence has proved credible in its own right. Doubtful as this seems according to many strategic analysts, the important factor that must be borne in mind is the cost aspect. How much does it cost to maintain a credible conventional deterrent? A nation, following this strategy, would have to continue to tailor its response to the nature and extent to the potential adversary. It is also well known that conventional weapons are continually being improved and the rate of obsolescence is indeed high. The developed countries that actually produce these weapons appear to be better placed as they are able to not only balance the costs, but indeed profit by selling own yesteryear military weapons to the third world. But, what about the majority of the countries, mainly from the third world? For the sake of the deterrence, they have no option but to keep up with the time and this no doubt effects their economic and over all development. How much longer must they continue to be involved in this self defeating race? "Cost factors are likely to prove significant in slowing the spread of advanced conventional weapons and ballistic missiles."¹⁸

The US in the 1950s, had a President who was a fiscal conservative, with a strong conviction in balanced budgets - Dwight Eisenhower. The western Europeans were also disinclined to spend large sums of money on defense. In these circumstances, the US strategic establishment felt that a strategy must not only provide safety but also make economic sense. In his speech to the Council of Foreign Affairs, Mr. Dulles spelled out the "New look" strategic policy which would make it possible "to get and share more basic security at less cost." The idea that a nuclear arsenal could result in offsetting savings in conventional defense expenditure, proved infectious. Britain published a white paper in 1958, which anchored British defense policy on the nuclear deterrence. In France too it was being vigorously argued that acquisition of nuclear weapons would result in savings on conventional defense expenditure. Therefore, "telling the leaders of insecure nations that the cost of developing nuclear weapons will be enormous in political and economic terms won't work."¹⁹

Critics highlight that the conventional costs have escalated so rapidly, that the price equation has

¹⁸ Yahya M Sadowski, Scud or Butter? The Political Economy of Arms Control in the Middle East.

¹⁹ William Burrows and Robert Windnam, Critical Mass, p-487.

actually been reversed. An IRBM costs less than a modern strike aircraft, and its maintenance and upkeep are substantially less. A nuclear bomb could cost much less than even a few current generation tanks. A nuclear attack submarine costs about the same as a surface combatant in certain category. While it is not possible to do without adequate conventional capability even in a situation of nuclear deterrence, some temporary asymmetry can be accepted without causing undue anxiety. But to maintain a posture of conventional superiority against a nuclear adversary would call for enormous expenditure and a high state of readiness. Ultimately even if nuclear weapons do nothing else they would seem atleast to deter ones opponent from using them.²⁰

ANALYSIS

If such be the realities and compulsions for the top section of the developed countries the base is applicable more so to a greater degree to the balance of nations, especially in the third world. No doubt that "proliferation has improved the ability of the states in the developing world to project power beyond their regions."²¹ There can be no two views about the need for each nation to develop or acquire adequate wherewithal for protecting her national interests. It is the wise, shrewd and practical ones, who shall choose the means in a manner that their country is not led to economic ruin. The nuclear option is one such mean.

The nuclear weapon is essentially a weapon of deterrence whose relevance continues to be an important factor in military strategy. This is notwithstanding the fact that its influence appeared to be on the wane in super power military equation. It has declined further after the demise of the Soviet Union. Concurrently its doctrinal relevance in the third world appears to be growing. It is clearly established that conventional military response is totally inadequate against a nuclear weapon capable adversary. And as William Burrows said, "super weapons are the ultimate tools of nationalism, and, their owners believe, they therefore bring automatic respect because they guarantee survival."²²

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²⁰ Brad Roberts, From Nonproliferation to Antiproliferation, p-161.

²¹ Ibid, p 161.

²² William Burrows and Robert Windnam, Critical Mass, p-485

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