INTRODUCTION
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Nuclear policy of a country was until a few years ago a closely guarded secret as it was concerned with National Security Strategy of a country. It assumed importance initially in the context of confrontation of the two Super Powers in the Cold War days. Interestingly, the status was assigned to the two nuclear power states, who were engaged in expanding their sphere of influence in the global arena. If the former Cold War era was marked by a fragile balance of terror with the awesome nuclear holocaust looming large, the present unipolar World Order is no less unstable. The peace that was supposed to be ushered in after the disintegration of the Soviet Union was only a myth. The world continues to be torn apart by numerous small wars, insurgencies, terrorist attacks, regional, territorial and internal conflicts. The 21st Century is an era of strategic uncertainty having ramification on India’s national security perspective. India, a proud nation with a past history of struggle against colonialism, racialism and alignment with any power bloc could not tolerate the hegemonistic imposition of treaties having grave consequences on its own security. It was at this juncture, when the regional security environment was deteriorating and nuclear powers headed by the US were trying to tighten the noose around India’s nuclear programme that, India chose to break free of its self-imposed nuclear restraint of twenty-four years and carry out nuclear tests for the second time thereby crossing the threshold unambiguously.

However, India still lacked a national security and defence strategy to determine the role of nuclear weapons. Since 1974, India has pursued a “nuclear option” strategy. This entailed the capability to assemble nuclear weapons quickly within hours or a few days thereby projecting its image as a peace loving country, who would use its recessed
deterrent capability only when its entity was in danger from a nuclear attack. The nuclear option reflected India's normative aversion to nuclear weapons and its emphasis on nuclear disarmament and the preference of the political leaders to utilize the meager resources of a nascent nation for economic development.

It was in the 1990's that the adequacy of "nuclear option" strategy was questioned. It was generally felt by Indian strategists and political leaders that the non-weaponised deterrence would be useless in case of a pre-emptive strike by a nuclear adversary, decapitating our nuclear installations, delivery systems and our command and control structure. This generated rethinking among the Indian military and non military strategic analysts on the issue as to whether India should use its option and go for an overt nuclear weapons programme or not.

The disillusionment caused due to the lack of genuine disarmament measures in the 1990s was a set back for the anti-nuclear strategists while making the pro bomb lobby more vocal in their demand for a bomb. The US attempts under President Clinton to cap, reduce and eliminate India's nuclear programme added salt to injury. The coming to power of a ultra nationalist party like BJP was a shot in the arm for the pro-bomb lobby. The development of nuclear capability and deployment of missiles was on BJP's agenda. Thus the testing of nuclear bombs in 1998 was not really a bolt from the blue as is made out to be by the western and other critics. In fact the groundwork had already been carried out by the scientific community led by Dr.A.PJ Abdul Kalam, the then head of the Defence Research Development Organisation, Dr. Rajagopal Chidambaram, Chairman of Indian Atomic Energy Commission and Dr. K. Santhanam, presently Director of IDSA and an eminent physicist.
The subject of the thesis, "India’s Nuclear Policy: Strategies and Options", is quite exhaustive, as vast collections of literature already exist in this area. My attempt has been to analyze the policy formulation and implementation aspect without delving much too deep into the technological details, as it is beyond my reach and understanding with my Political Science background. I have also tried to avoid the use of military and technological jargons as far as possible to make my subject of study interesting and comprehensible to the educated common man, for whom the atomic reality exists only in motion pictures or in novels. The whole nuclear world is shrouded in mystery and secrecy. Defence is generally seen as something that does not concern the people in general, and is thought to be of interest to a select group. The common man remains non-involved and disinterested without realizing that; the peace they seek depends on freedom from external threat. History has shown us that, the altruistic policy of “peace without strength” is flawed, as it has been the root cause of aggression and foreign domination in our country. To keep abreast of the existential reality should be a matter of concern not only for the political elites but also for the masses, who generally remain ignorant about the strategic imperatives of the country, on which its very existence as a nation state depends. My thesis has been divided into seven chapters ranging from issues involving the historical background of evolution of India’s nuclear policy to present day context of development of a viable, foolproof and survivable deterrent posture culminating in the laying down of the "Nuclear Doctrine" as a formal policy directive of the Government.

The first chapter deals with change in perception towards nuclear weapons by the policy makers since independence. The antipathy to the weapons of mass destruction gave way to the understanding that, national interest is supreme. The ideological
attachment to the Gandhian and Buddhist principles of Ahimsa and non-violence was not totally abjured but took only a second seat when a more realistic assessment was made as India was forced into three major wars with its immediate neighbors. India's policy of self-restraint gave way to nuclear activism in 1995 due to development in the international non-proliferation regime and political changes within India. This chapter also briefly deals with the different stages of development of our nuclear programme without going into the details of the process involved in development of nuclear energy, though the technology for producing nuclear energy is same as that for producing nuclear bombs.

The second chapter begins with a study of existing literature on different nuclear strategies adopted by the two Super Powers during the Cold War period. Different factors like the geo-strategic, demographic, economic and technological considerations, which affected the strategies of the western powers especially, the US have been analysed. The feasibility of the different existing strategies have been examined and re-modified to suit our own defence requirements and domestic realities. The western strategies help us to understand the intricacies of a nuclear war fighting and the role the nuclear weapons play in deterring war, which is the essence of all nuclear strategies. The deterrence concept dwells on the non-usability of nuclear weapons as it aims at deterring the enemy from using nuclear weapons, as it would entail a retaliatory strike by the country targeted, with nuclear weapons of sufficient magnitude to inflict unacceptable damage to the enemy after absorbing a "first strike". The emphasis of such a nuclear strategy would need to be directed towards the psychological rather than the military application of force.
The third chapter deals with the Indian policy of minimum nuclear deterrence. In the face of growing allegation by both western and Indian critics that, India does not have a history of strategic thinking, it was necessary for India to conceptualise its strategic policy based on the doctrine of minimum nuclear deterrence. The National Security Advisory Board (NSAB) released the Draft Nuclear Doctrine in August 17th, 1999 for public debate and approval by the Parliament. In it were outlined the basic tenets of the policy of minimum nuclear deterrence adopted by India. It is not based on the principles of maximum deterrence (as in case of US) or proportional deterrence by China but on minimum deterrence. In this policy of "Retaliation only" the survivability of our arsenal is critical, as India would have to use nuclear weapons in a second strike to retaliate and to inflict damage unacceptable to the aggressor. Here also certain ambiguities remain regarding the type and size of nuclear arsenal to be deployed as it is variable according to the weapons structure of the enemy and also the situation warranting the use of a particular type of weapon (e.g., the Interim Range Ballistic Missile Agni can reach the Chinese southern territory, whereas the Short Range Prithvi Missiles will be effective against Pakistan.)

The fourth chapter deals with the cost benefit analysis of our nuclear programme. It underscores a very important aspect of our nuclear policy which is the economic viability of our nuclear weapons programme. The nuclear weapons programme, which is mostly indigenous in character, has to be affordable if the twin objective of national security and development are to be achieved. A balanced approach is sought, where in the credibility of the nuclear weapon structure is not affected by making it too small or outdated and at the same time seeing to it that its economy is not over strained thereby shoving it into a financial crisis.
Several charts and tables have been provided to substantiate my findings. A comparative analysis of the defence expenditure of different countries have been done and the necessity of raising the Indian defence expenditure from its current level of around 2% of the GDP has also been emphasized.

Chapter five deals with India's achievement in the field of weapons delivery systems and space research. There is a very vital link between the two fields as India's technological achievement in launching space vehicles also provides the technology for launching long range missiles especially the Intercontinental Ballistic Missiles. Development in the field of Remote Sensing satellites is an essential part of our Command and Control structure as the satellites provide communication between the political command centers and the military units. Signals can be sent via satellites to release missiles as in case of launch on warning systems. The remote sensing satellites also act as spy in the sky as they can collect images of enemy nuclear sites and vital installations. In this chapter the gradual evolution of India's missile programme has been discussed and the international community's reaction has also been analyzed.

In Chapter six an assessment of the country's Command and control system has been made in the light of existing command and control system of other nuclear weapon states. The command and control mechanism depends on the nuclear strategy of a country. India's adoption of a 'no first use' and 'minimum deterrence' doctrine requires a failsafe command and control structure as the enemy may decapitate our command and control in the very first strike. To avoid such a contingency the requisite infrastructure (like early warning systems and missiles in a state of operational readiness, an Anti Ballistic Missile capability to intercept incoming missiles etc) an alternate command post
and a clearly formulated chain of succession should exist. The whole system has to be infallible as there can be no second take in a nuclear warfare as the stakes involved are very high. The very concept of deterrence becomes meaningless if we do not possess the will and capacity to inflict irreparable damage on the enemy. Thus at the strategic level a well-conceived plan of action should be ready and the nuclear force structure should be perpetually alert to meet enemy strike without losing much time in procedural delays.

Chapter seven is the last chapter of my thesis and deals with the most important aspect of our nuclear policy. India's stand on different regimes like the Nuclear Non Proliferation Treaty, the Comprehensive Test Ban Treaty the Fissile Materials Cutoff Treaty and the Missile Technology Control regime has been elucidated and validated. The need to change the discriminatory and arbitrary nature of the treaties has been emphasized. The five nuclear powers who are also the five permanent members of the Security Council had set up different international regimes and modified them to suit their security requirements. The NPT was aimed at curbing proliferation of weapons to other non-nuclear states. India was opposed to this treaty, as it was discriminatory in the sense that it considered possession of weapons by some as legitimate while making it illegal for others. The NPT was also ineffective in checking the clandestine proliferation of nuclear weapons and technology. Similarly the CTBT was unacceptable to India, as it had no plans for a time bound elimination of nuclear weapons in it thus making it ineffective as a disarmament measure. The main objective of CTBT was to ban further testing of nuclear weapons. But here also it was flawed, as it did not ban a qualitative development of nuclear weapons through computer simulation techniques. The manner in which the CTBT was sought to be imposed on India by using the 'entry into force'
clause demonstrated the nuclear powers concerted efforts to India's weapons programme. The CTBT ceased to be a disarmament measure as it was more of a non proliferation technique trying to curb India's weaponisation. But things have changed with the Pokhran II tests by India. India has become a state with nuclear weapons with an overt nuclear weapons programme. This is a reality that cannot be denied. The weapons are here to stay as long as India's security imperatives are not met and as long as genuine steps towards total denuclearization has not been taken.

The FMCT and MTCR are two other weapons control measures aimed at putting brakes on India's nuclear weapons development technology. The former was directed at freezing all fissile materials required as fuel in nuclear plants. The later was another futile attempt at hindering India's space and missile development programme. The twin problems have been discussed in this chapter and the changes required in India's stance has also been suggested.

The above paragraphs throw light on the different dimensions of India's nuclear policy briefly summing up their content. At the end is the conclusion which draws a strategic framework for the conduct of India's future nuclear policy. The views of other strategic analysts have been assimilated along with my views to present an affordable yet credible nuclear deterrence policy. The aim is to present a rough model not a blueprint of our future strategy as the subject of study is extremely complex, technical highly sensitive and fast changing as no one can say precisely and with certainty that this strategy is the best.