

**National and International Perceptions of India's
Guided Missile Programme**

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Declaration

This is to certify that the dissertation entitled "National and International Perceptions of India's Guided Missile Programme", has been submitted by Ms Jita Dash, in partial fulfilment of the requirements, for the award of the degree of MASTER OF PHILOSOPHY, has not been previously submitted for any other degree of this or any other University and is her own original work.

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ABBREVIATIONS

AAM	Air to Air Missile
ASM	Air to Surface Missile
AWACS -	Air Borne Warning and Control System
CIA	Central Intelligence Agency
DRDO	Defence Research and Development Organisation
DRDL	Defence Research and Development Laboratory
IAEA	International Atomic Energy Agency
ICBM	Inter-continental Ballistic Missile.
INF	Intermediate Range Nuclear Forces
IRBM	International Range Ballistic Missile
ISRO	Indian Space and Research Organisation
MTCR	Missile Technology Control Regime
NATO	North Atlantic Treaty Organisation
NPT	Non Proliferation Treaty
PNE	Peaceful Nuclear Explosion.

INTRODUCTION

India's Integrated Guided Missile programme has elicited increasing attention in the last decade. It is a technological development that has become a cause of celebre in both the national and International arena. The present study attempts to assess the perceptions of the domestic and external observers of the development of the missile technology in India. In India, the growth of scientific and technological manpower and technological base relevant for development necessiated national consiousness for advanced Defence programme. The setting up of Integrated Guided missile programme in 1983, led to qualitative changes in the Indian Nuclear programme. The literature on the topic indicates that the Indian Missile programme originated from considerations of self-reliance, security, economic calculations, pragmatism and prestige. The relatively speedy and successful development of the capacity to master missile technology can be seen as unforeseen effects of embargo policies

adopted by the major powers therefore justifying the demand for indigenous defence technology.

The successful test-firing of a family of missiles has come to assume a weight and political significance in the Indian nuclear programme, clearly disproportionate to its technical content. The launch of the IRBM AGNI to a "Triumphant splashdown" in the Bay of Bengal was something of a watershed. In terms of media coverage and public attention the sensation of the incident comfortably outstripped the Pokhran explosion of 1974. Taken together the two events have irrevocably shifted the perspective of the nuclear debate in India. While the degree of its success has been from the start, a matter of some disagreement among the two constituencies at home and abroad, yet there is no doubt that the event created ripples in both the national and international arena. At home the Euphoria created by the launch of IRBM AGNI has subsided, the event seems to have gone into history and, in some quarters, into Nostalgia. The result of Sporadic

public opinion polls and advocacy in non-official media suggest that the sentiment in favour of nuclear achievement waxes and does not wane. In the International arena the repercussions of 'AGNI' have not subsided as indirectly evident connection from the imposition of super 301 by the US, immediately after the launch.

✓ The issues taken up in this study are very specific and of immediate significance to developing nations with Ballistic Missile programmes. In a very real sense the controversy that has surrounded the Indian guided Missile programme over the past decade, as expressed in the threat to break down collaborative relations, is the debate on the meaning of independence and self reliance in the nuclear field, for a developing country, which is subject to discrimination in the international arena. Essentially the issues raised in this concern the advantages and the problems of a developing nation attempting towards national self - reliance, in the face of external attempts to restrict,

discourage and block its missile programme.

Inspite of difficulties in the Initial phase, the Defence Research and Development Organisation continued its endeavour for achieving self reliance in the critical Defence technologies especially Missile systems. The successful flight test of the 'Technology Demonstrator AGNI on May 22, 1989, the fourth successful flight test of surface to surface tactical battlefield 'PRITHVI' on 5 July 1991, the successful flight test of surface to air missile 'AKASH' and anti tank missile 'NAG' on August 14, 1990 and November 29, 1990 respectively were milestones in India's guided Missile programme.

The purpose of this research is to examine the motivations which laid the foundations of the guided missile programme and the perceptions of other nations towards the success of the project. It also deals specifically with the National perceptions of the decision which had a profound effect upon the entire fabric of

national life.

The methodology adopted in this study is historical and comparative. The comparative approach has provided the means by which international response towards the launching of IRBM Agni has been differentiated according to the type of state involved.

This study has been broadly divided into 5 chapters. The first chapter deals with the rationale behind the development of the Guided missile programme. The reasons cited include the need to counter the Regional rival Pakistan, the extra-Regional power China, to avert Superpower interventionist tactics in the Indian Ocean Region, to compensate for specific lacuna in military capabilities, cost effectiveness, economic spinoffs and National prestige.

Chapter II focusses on the Non-Proliferation Regime and the perceptual dichotomy between the 'haves' and the 'have nots'

about the purpose of the Regime. This dichotomy of perceptions reflects the unequal nature of the present international system and the failure of the Non-proliferation Regime to influence India which strongly advocates that both horizontal and vertical proliferation should be checked. The nuclear control efforts like the Non-proliferation Treaty and the Missile Technology control Regime have evolved away from the concern over the development of nuclear weapons, by the developed world, to concern over the spread of nuclear weapons to the developing nations. The Developed States fear the emergence of new Centres of power that would complicate their calculations and disrupt the present international hierarchy.

Chapter III attempts to portray the events leading to the foundation of the Indian Guided Missile programme. It historically traces the growth of Indian Space programme culminating in the development of the Sophisticated Guided Missile programme. This chapter brings out the

technical differences between the various types of missiles produced by the DRDL in Hyderabad.

The fourth chapter provides the heart of the thesis. I have attempted to situate in a broader context some of the recent concerns and responses that have been expressed in the literature on Guided Missile technology in India. Special emphasis has been placed on the contrasting approaches between the Defence experts, the politicians in power who supported the Integrated Guided Missile programme, the common masses who applauded the advance in our science and technology along with economic planners, and the members of opposition, who were highly sceptical about the escalating costs.

The second part examines the politico-developmental implications of the Indian Missile programme by specially focussing on peoples resistance movement in Baliapal against the setting up of the National Test Range in Baliapal - Bhograi. This part examines the vital question

of 'Guns or Butter' in the context of the peoples movement in Baliapal. It vividly illustrates the struggle of the people against displacement and dislocation of their land and how the struggle gets embroiled into a partisan political issue. It also focuses on the National perceptions of the different political parties towards the National Test Range and the Missile programme.

The issues that have been raised in Chapter V are multidimensional and deal with the international repercussions of the AGNI test. The discrepancies between the perceptions of Soviet Union and United States of America, are anchored in differing outlooks, self-interests, institutional structures and positions in the geopolitical orders, judging from the *mild* response from the Soviet union and Western over reaction to India crossing the Intermediate Range Ballistic Missile Threshold.

The development of the sophisticated Guided Missile Technology, its assessment,

diffusion and ramification for technological development and its effects on National and International arena have been the main concerns of the present investigation. Apart from this central concern this research also attempts to raise the issue of the discriminatory tactics adopted by the US in collaboration with some nations, in formulating international nuclear laws, particularly to thwart the development of missile technologies in the developing world.

CHAPTER -I.

THE RATIONALE BEHIND GUIDED MISSILE PROGRAMME

The proliferation of Ballistic missiles capabilities have introduced a dynamics in third world security equations, and have significantly altered the relationship between the suppliers of advanced technologies and the developing nations who are also developing ballistic Missiles systems. In the emerging post-cold war global arms trade, the major third world actors are pursuing advanced weapons technologies not only to obtain sufficient levels of Deterrence but also to develop greater levels of self reliance. The present chapter is a study specifically on the technological environment that India is likely to face in the 21st Century and the compulsion imposed on India to carry out its modernisation programme.

Defence strategy to be effective has to be relevant to the military operational

environment and cannot be constructed on abstract absolutism. Besides this external relational dimension, it must have an internal harmonious amalgam of doctrine technology and force structure. Technological change is really a conditions of the modern world. Technology and its favourable march forward has had a profound impact in shaping the defence policy and also the most important factor in creating crucial asymmetries between the developed and developing world. The Technological and operational environment we are likely to face and contend must be viewed in this case which would also provide a rationale for the pursual of the guided missile programme.

Nuclear weapons may be desired by virtue of its security benefits. Trager and Simonex defined national security as "Creation of National and International political conditions favourable to the protection and extension of vital values

against existing or potential adversaries."¹

Economics is nearly always invoked as a primary justification for nuclear weapons programme. The final objective of defence planners is to evolve a credible cost effective defence strategy for India. At the early stages Security objectives alone are both necessary and sufficient to justify a nuclear programme. But as it grows as nuclear programme must gather economic justification.

In the present world system the security interests of the developing countries are determined by many factors. In the literatures, the basic sources of insecurity of the countries is often limited to the consequences of underdevelopment and dependence in practice

1. Mihaly, Simai, "Dimensions and Levels of Security in the International System of the 80's and Beyond", Development and Peace, Volume 8, (Autumn 1981), p.5.

however, a number of other factors play a substantial role, the territorial disputes stemming from the arbitrary drawn colonial borders, internal conflicts, destabilising policies of external powers covert or open military operations. The spatial proliferation of nuclear weapons makes regional issues global and vice versa. Indian security planners therefore, have to take account of global as well as regional nuclear threats while formulating the nuclear strategy.².

The roots of the predicament facing India, lie in the grave threat arising out of phenomenal spread of nuclear weapons vertically horizontally and spatially, India is already surrounded on all sides by missiles power engaged in continuous proliferation of Ballistic missiles. Indian security planners cannot afford to be

2. Ravi Shastri, "Nuclear issues and Security of States" Strategic Analysis (February 1989).
page 1275

complacent to this fact. The foreign policy of this country especially its strategic and security dimensions has to be conditioned by its geopolitical, geostrategic environment, by domestic factors and by the dynamics of the international system.

India is faced with nuclear weapon and missile powers to the North, South and the potential missile threat in the west. Although a soaring idealist and an agnostic humanist Nehru attempted to construct free India's foreign policy on the Mandala doctrine of Kautilya based on geopolitical assumption that, the immediate neighbour state is treated as the potential enemy and the next state to the immediate neighbour as our friend. Pakistan and China therefore, have become the central issue of Indian Security policy.³

3. Stephen Philip Cohen, 'The Security of South Asia - American and Asian Perspectives', (New Delhi: Vistaar Publications, 1988) p.120.

The relation between India and Pakistan is of conflicting identities and generational continuity major wars have been fought between the two nations in 1965 and in 1971 over a whole range of contentions issues. The accession of Kashmir to India at the time of partition has never been accepted by Pakistan. A related irritant soaring Indo-Pakistan relation is the on-going low intensity war in the Siachen glacier region. More recently in the present decade Pakistan's cover assistance to Sikh secessionists and terrorist movements in Punjab by providing safe havens for arms and ammunitions.

India has an edge over Pakistan in *its* airforce and *its* naval fleet capable of causing damage to Pakistan's fledging Navy. However this Nebulous edge has been offset by Pakistan's acquisition of F-16s, *its* access to AWACS, *and its* missile capability.

Pakistan initiated its missile development programme in 1987. On April 25, 1988

it launched a ballistic missile produced by Soviet union which was claimed to be capable of reaching Delhi and Bombay that is a range in excess of 800 km. The missile ^{has been} developed apparently with assistance from China and Federal Republic of Germany. Pakistan also tested its Haft-1 (80 KM) and Haft-II which is based on the Chinese version of Scud B design and can be developed to further ranges of 600 - 1000 Km⁴. China, US and NATO allies have contributed to grant accretion to Pakistan Ballistic Missile programme knowing fully well that its clandestine acquisition of strategic materials point only in one direction.

The Pakistani armed forces operate as US supplied missile systems, which include advanced TOW and anti-tank missile, Harpoon, Anti-ship missiles, stinger SAM's, Sidle-winter AAM, and Exocit ASM and many others. When Pakistan's

4. Jagjit Singh, "The Strategic Deterrent Option", Strategic Analysis (September 1989). page 588.

defences are argued with surveillance, aircraft, AWACS, AEWS then India's need for advanced missile capabilities would increase.⁵

The Chinese threat to Indian Security must remain foremost in the minds of Indian Security planners. India has 4050 Km border with China. Since precolonial times and more often Britain colonised India various boundaries have been demarcated between India and China leaving the two giants as the inheritors of vast tracts of disputed land. The rape of Tibet by China in the early 50s, Dalai Lama's flight to India in March 1959, the clash between China and Indian forces in 1962 remains afresh in Indian minds.⁶

5. Ravi Shastri, "More Indian Made Missiles", Deccan Herald, (18 February, 1989).

6. Mathew Thomas, Indian Defense Review (January-July 1989), page 33.

The Chinese nuclear forces has undergone a substantial expansion since mid 60's. Chinese now deploy a triad of land based ballistic missiles, a bomber force and second strike SLBM force. While the Chinese ICBM's are probably targetted at US and IRBM's and MRBM's targetted at Soviet union the fact remains that medium range Ballistic missiles can be easily re-targetted at India. Major Indian targets would also be within the striking range of Chinese ICBM base at Lopnov in Xianjiang province. The world at large recognises Chinese nuclear and missile capabilities. China makes 21 different types of missiles, 12 of them guided, from simple short range weapons to intercontinental ballistic missiles with multiple independently targetted reentry vehicles. There is little solace in China's declaration that she will not be the first to use nuclear weapons in war.⁷

7. Satyabrata Rai Chowdhari. "Missiles race in the Third World", PTI Feature, (March 10, 1990), page D825.

The close cooperation between China and Pakistan pose a major military threat to India. The Sino-Soviet rapprochement may prove a turning point in India's perception of security. Needless to say that Soviet union would cease to sponsor India in so far it undermines the Chinese interests and at some stage might go beyond the posture of neutrality in the Sino-Indian rivalry.

China's attitude to India in the 1990's will be a major factor ^{to compel India} to progress her missile technology to match China's ICBM capability. India's research and development in nuclear submarine field is meant to in the distant future to acquire SLBM capability. On the face of it, therefore, India in the foreseeable future cannot match China's military missile and decide the issue of boundary adjustment and return of illegally occupied territory by force. Diplomatic initiatives backed by deterrent military capability is possibly an answer.

The end of second cold war and the beginning of what could be termed as second Detente, is the single most important event in international politics which throws a different sort of challenge to India's security problem. President Mikhail Gorbachev has thrown a greatest challenge to the western industrialised states with the peace offensive. Gorbachev has challenged the concept of balance of terror and instead advocated the concept of balance of interest to meet the requirements of the interdependent world.

The western theory of international politics is based on the concept of domination and exploitation of newly liberated countries. The Indian State and the US are in contradiction because the assertion of national sovereignty by the former is not acceptable to the latter. India occupies a very strategic position in Asia. The US has not only armed Indian neighbours, but has

also established military bases there. The US policy was to involve India in an arms race and thus exercise a continuous pressure on Indian security as well as the process of development. The security environment of India in the 1990's will continue to be threatened by the US, through the client state of Pakistan.⁸

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The Superpowers find it in their interest to keep the developing countries in a state of tension and create various problems for them and acquire influence over them. The arms race among the industrialised world is not likely to result in wars in that part of the world, but lead to proxy and interventionist wars in the developing world. For the Developed world the arms race is only an expression of conflictual

8. C.P. Bhambri. "US view of India's Security - Glaring Contradictions", ed., Rakesh Gupta, Indian's security problems in the 1990's, (New Delhi: Patriot Publishers, 1989), Page 109-11.



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relationship between two power blocs; but in the developing world it gets transformed into specific security problems for the latter. The conflictual relations in the developed world results in various non-military threats but in the developing world the countries face actual physical threats of either limited war or full occupation.⁹

The US has demonstrated the use of force without war on 259 occasions, and the Soviet union on 167 occasions, in the developing world. Coercive diplomacy is exercised in many ways, Firstly, the demonstration of military force near a target country. The second category of the use of coercive diplomacy are, selective arms transfer policies, to apply pressure on a particular country to make it insecure, as arms are transferred to the neighbouring states.¹⁰

9. K. Subrahmanyam, India's Security Perspectives, (New Delhi, ABC Publishing House, 1982), Page.29.

10. K. Subrahmanyam, India and The Nuclear Challenge; (New Delhi: Lancer International publication, 1986), p.67.

The super power presence and the deployment of naval systems in and around the Indian Ocean poses a major security threat to India. The security of this region is of paramount importance as the Oceanic routes across, carry the bulk of India's Overseas Trade. If these routes come under the control of countries not friendly to India this would not only threaten her economic development, but her independence.¹¹

The US armada with nuclear weapons make port calls in the region from south Pacific to the Persian Gulf. The US has set up bases in the region for Militarist, nuclear and strategic initiative purposes Diego Garcia. The French conduct nuclear test in the region. The French too keep a permanent naval force in the Indian Ocean region its bases being Djibouti and

11. Pradyot Pradhan, "India's Security Environment in the 1990's, External Dimension," Strategic Analysis, (September 1989), Page 648.

Recurian. The Soviet Navy too maintains around 25 ship force in the Indian Ocean. The US has both a conventional and perhaps a strategic nuclear interest in the Indian Ocean region. Its objectives include to protect US interest in the Persian gulf, employ threaten force in support of US diplomatic objectives in the middle east, intervene in support of their objectives in the Littoral.

The Soviet Union competes with the US for influence in the third world. The influence is sought to be exercised through naval deployments, arms transfers, some limited though not significant economic and the positioning of Chinese powered submarines with armed SLBM's in the Indian Ocean, the sanctioning of nuclear powered submarines by the US to Pakistan and the low Soviet presence to counter the Americans are some of the immediate maritime threats to India.

An authoritative report entitled "Discriminate Deterrence" published in the US as

called for the argumentation of US missile capabilities in the Asia Pacific theatre with the specific goal of facilitating military intervention in the region. The US department of defence recently called for long range "smart" missiles to be integrated into its naval systems. The exacerbation of super power rivalries in the Indian Ocean could prejudice India's security in unpredictable but dangerous way.

According to Aristotle, a government is created to preserve mere life but it is maintained to promote good life. Once the stability prerequisite of economic development is maintained government can devote their attention to good life often identified with income growth and industrialisation.

Nuclear policies flow from dynamic interaction between political and economic considerations. In the south, economic objectives rest upon broad consensus and everyone wants national income to grow. Political objectives are

far more sectarian. Policies emerge through conflict and compromise. Sometime they reflect the wishes of the President or PM at or times bureaucrats frustrate leaderships intentions. A popular mode of thought known as bureaucratic decision-making model rejects the notion that the policies represent the considered outcome of a rational process, where policies emerge as a considered choice of the optional solution on any various alternatives.

This model of decision-making does not generally apply to a developing countries nuclear policy, where legislatures play a nominal role. Public support is encouraged and dissent avoided but the popular involvement in decision is even more sporadic and peripheral. Political systems in the developing world, feature strong executives whose support is indispensable for development of technology, as extensive and complex as missile technology. In India's case a coalition of hawkish scientists, and bureaucrats have put pressure on the successive governments to go ahead

with the missile programme. All Indian leaders since Nehru, have resisted the next step but have moved further down the nuclear path, in the absence of a good reasons to freeze or dismantle their nuclear programme. Since Lal Bahadur Shastri's term as PM this deferral of the go and no go decision while simultaneously allowing research and development to move ahead has acquired the label of option strategy.

During Mrs. Gandhi's second period as Prime Minister the tendency in New Delhi was to emphasize India's status as a world power. Security and Military power, prestige, all tangible aspects of power were the pillars of her strategy under the Veener of peace, cooperation and non-alignment. Security policy and strategy decision were made in the Secretariat rather than the ministry of external affairs.¹²

Mrs. Gandhi reneged on the the Jawaharlal

12. Stephen Philip, Cohen, no.3, Page 42.

Nehru's pledge of 1956 and sanctioned a Peaceful Nuclear Explosion in 1974, in close proximity to Pakistan's borders. The Integrated guided missile programme was started during her reign.¹³

With the succession of Rajiv Gandhi as Prime Minister in November 1984, there was inevitably a change in style and rhetoric. The focus was more on regional and South Asian issues, in particular bilateral disputes with Pakistan and Srilanka. The focus was more on regional and South Asian issues, in particular bilateral disputes with Pakistan and Srilanka. This approach continued with the self identification of India in regional terms as the 'Dominant', 'Paramount', 'Hegemonic' major power in South Asia. The Intermediate Range Ballistic Missile AGNI was launched during his reign.¹⁴

The desire of the leadership has been to

13. *ibid*, no.3.

14. *ibid*, no.3, Page 43.

make the country one of the most advanced technical industrial countries in the world. The desire to instill the perception of recognition as a technically advanced country was in addition to military and scientific consideration a driving force behind the 1974 explosion of a "Peaceful Nuclear Explosion," the similar motivation that impelled the establishment of a space programme and the simultaneous interest in the development of IRBM's. The May 1989 IRBM test by India demonstrates the technological capabilities and the potential of indigenous efforts and this demonstration, was the main aim of the test. The slow pace of growth in the attempt to develop aircraft was responsible for the development of the missile programme. Also precision guided nature of missiles has made their use with conventional or chemical weapons a credible option.

Industrialisation has come a long way in India since 1947. At the same time it is obvious that we are far from the national goal of self

reliance in defence equipment and technology the issues become highly critical. The status of our capabilities today and the potential for future must be reviewed in the framework of some general considerations applicable to the developing countries in the threshold of Industrialisation. Jawaharlal Nehru had rightly stated that no country can be truly independent, unless it is independent in the matter of defence equipments. There are two problems for self-reliance. First it is not easy to forecast the technological environment in a given time frame in future especially where potential adversaries may receive sophisticated high technology weapons from external sources. Secondly there is the perennial problem of technology obsolescence. Therefore, the need to update technology is the rationale behind the production of guided missiles. Guided missiles unlike aircrafts are all weather weapons and they are cheaper than aircrafts.¹⁵

10. Science Today (July, 1989)

In any case, total self reliance in defence technology may not be possible for India, as even the most of the developed nations cannot claim that they have achieved such a status. However, substituting major defence imports with domestically produced hardware is what any developing country like India aims at.

India has adopted a national strategy of what in today's parlance is called defensive defence. This strategy has been the guiding norm since independence and finds evidence in realities of responding to rather than initiating action. Proliferation of Ballistic missiles throughout the world, is a reality in which the developed nation no longer have a monopoly. This inevitably would lead to a multipolar world India's security scenario would get much more fluid in such a matrix. Till now India had to contend only with the threat, posed by Chinese ballistic missiles which cover the whole of the country, to this has been added the ballistic missiles capability of Pakistan. The superpower presence in the Indian

ocean and the excesses of coercive diplomacy provided an additional impetus for India to take adequate steps to enable it to exercise its sovereignty. The political leadership in India have sought to make India a dominant power in South Asia. In the complex world of today microchips and technological innovations are challenging ethos and renovation of political systems of the third world nations. In order to meet the twin problems of economic and military self reliance India has no option but to pursue with utmost vigour, its Integrated Guided Missile Programme.

CHAPTER II

THE NON PROLIFERATION REGIME AND INDIA

India has strongly believed in the non-proliferation of nuclear weapons, arsenals and infrastructure. It has been an ardent champion for Universal Disarmament. One of the fundamental approach to disarmament is to tackle the problems at philosophical and conceptual planes, to negate attempts at legitimation of nuclear weapons by changing the attitudes and perceptions, which conceive nuclear weapons as an instrument of national power. This approach would dovetail with Gorbachev's vision of a world without nuclear weapons. Prima facie, this unprovable belief system is that nuclear deterrence alone has preserved peace and stability in the industrialised world and embodies in the philosophy of proliferation. If the above dogma is to be accepted, then nuclear proliferation should

be good for all countries and that the nuclear cultists are inconsistent in their logic when they that nuclear deterrence has preserved peace in the traditional combustible Europe and that it would not be good for the developing world.

The Indian policy towards nuclear proliferation is a paradox to many. India has opposed nuclear weapons in principle and advocated both nuclear disarmament and non-proliferation. However India refuses to be a signatory to the NPT or any version of it in sub-regional or bilateral form as the missile technology control regime.

India took the initiative in the United Nations to place the item of non proliferation of nuclear weapons on the agenda of United Nations. In 1965, India along with seven other nations, submitted a joint memorandum towards achieving a solution to the problem of proliferation. The memorandum called for negotiation of an International Treaty based among others on the

following principles.¹

The treaty should be devoid of any loopholes which might permit any nuclear and non-nuclear powers to proliferate directly or indirectly, nuclear weapons in any forum.

The treaty should embody an acceptable balance of mutual responsibilities and obligations on nuclear and non nuclear powers.

The treaty should be a step towards the achievement of general and complete disarmament and more particularly nuclear disarmament.

The principles constituted the basis of the Resolution 2028(xx) adopted in November 19, 1965, by the UN General Assembly with an overwhelming majority which included UK, USA and Soviet Union.

1. Jasjit, Singh, "India's Nuclear Policy: A Perspective", Strategic analysis, Vol. XII, no. VII, (November 1989), Page 788.

Unfortunately instead of working on the basis of these agreed principles, the present NPT devoid of these principles was sponsored in 1968. India believed that the treaty was seriously flawed and did not really aim to bring about non proliferation of nuclear weapons. India therefore, did not accede to the treaty and continues with its position to date.

The NPT which emerged in 1968 as an anti-proliferation strategy, had a package of political incentives and technical disincentives, to deny the developing nations access to essential nuclear technology needed for self reliant power generation.

Article I prohibits the transfer of Nuclear weapons or other nuclear explosive devices to any state, whether a party to the treaty or not, whether a nuclear weapon state or not directly or indirectly through an alliance.

Article-II prohibits non nuclear

weapons signatories from manufacturing or otherwise acquiring nuclear weapons or devices including peaceful nuclear explosives.

Article-III obligates the non nuclear weapon parties to accept international safeguards as specified in a special arrangement with IAEA.

Article IV states that all parties to the treaty have the right to full exploitation of the use of Nuclear energy for peaceful purposes and obligates these parties in a position to cooperate with other countries in developing nuclear technology.

Article V obligates the Nuclear weapon parties to make available nuclear explosives for peaceful purposes, non nuclear weapon parties under international supervision or as low as possible, excluding any changes for research and development costs.²

2. David. B. Devitt, Non Proliferation And Global Security, (Toronto: Croom Helm Ltd., 1987) P.204.

Explaining India's stand, the Indian Ambassador Azim Hussain made the following points at the 1567th meeting of the first committee of the United Nations on May 4, 1968.

- (1) The treaty did not ensure the non proliferation of nuclear weapons but only stopped the dissemination of weapon to non-nuclear weapons states without imposing any restriction on the continued manufacture, stockpiling and sophistication of nuclear weapons by the existing nuclear weapons states.
- (2) The treaty did not do away with the special status of superiority associated with power and prestige confined on these powers which possessed nuclear weapons.
- (3) The treaty did not provide for a balance of obligations and responsibilities between the nuclear weapons states and non-nuclear weapons states.

- (4) The treaty did not constitute a step by step approach towards nuclear disarmament.
- (5) The treaty did not prohibit one nuclear weapons state from assisting another nuclear weapons state by providing technical aid.
- (6) The long period of a quarter of a century provided in Article X of the treaty, would appear to endorse and legitimise the present state of affairs, and legalise if not encourage, an unrestricted vertical proliferation by the present nuclear weapon powers.
- (7) Article VI did not create a judicial obligation in regard to the cessation of nuclear arms race at an early date.
- (8) The treaty imputed a false sense of security to the world.

(9) It was discriminatory in regard to the safeguards and control which were all imposed on non-nuclear weapons states. While all the obligations were imposed on the non-nuclear weapons states, the nuclear states had not accepted any.

(10) The Security assurances to the non-nuclear weapons states could not be a quid pro-quo for the acceptance of the treaty. This must be obligatory for the nuclear weapons states.³

The NPT is mainly designed as a political instrument of the two superpowers, to divide the nations into nuclear haves and nuclear have nots.

A non proliferation Regime which ignores the present proliferation and preoccupies itself with the future proliferation is naturally

3. *ibid*; Jasjit Singh, no.1, Page 789.

unrealistic, ineffective and unacceptable to nations including India, who want a NPT to create both horizontal and vertical proliferation.

Obviously the NPT was to limit the prestigious nuclear club membership into 5 nuclear weapon powers and to perpetuate a discriminatory nuclear world order, for the benefit of nuclear haves. In this sense it reflects the realities of an international system which is dominated by nuclear weapons powers. The pentarchy of the nuclear weapons powers under the NPT is a bizarre new world of nuclear aristocracy ruling non-nuclear serfdom..

The NPT legitimises all nuclear weapons produced and those to be produced in the future by the nuclear weapons powers. Not only that the non-nuclear weapons states have no such rights but they have been denied the nuclear option. The nuclear weapon powers want the non-nuclear nations to carry the NPT like an albatross to prove their nuclear innocence.

The Nuclear Non-Proliferation Treaty has not only legalised the military inequality between nuclear and non nuclear weapons states but also formalised technical inequality. This is evident from the Article III, IV and V of the NPT.

The discriminatory nature of the NPT is strikingly demonstrated in Article III. The clause while it does not apply to the activities of the nuclear weapon powers, who really produce and stockpile nuclear weapons, is specially meant for non-nuclear weapon nations who are obliged to accept the International Atomic Energy Agency safeguards. The one sided application of the safeguard clause to the activities of nuclear weapons powers from similar inspection is, indeed the politics of the safeguard system of the NPT. India therefore, is opposed to the NPT and demands a non-discriminatory and universal safeguards provision.

The NPT was and remains a cultural

document extending into the international nuclear relations, the 1945 pattern of allocating special rights and responsibilities to wartime allies, particularly the United States, and the Soviet Union. It is not therefore, surprising, that the NPT aroused counter cultural and diplomatic opposition by secondary emerging powers wanting to exempt regional power politics from international pressures of superpowers. After India's nuclear test the NPT became an umbrella under which supplier control were strengthened. By the mid 1970s the orientation is that the NPT had shifted decisively towards a strategy of controls and denial away from nuclear disarmament.⁴

In this context, the NPT has not only failed to unite proliferation of nuclear weapons, but it provided the legitimacy and facade behind which unrestrained proliferation of nuclear weapons, arsenals and infrastructure has taken place. After more than two decades, the retrograde

4. *ibid*; David B Dewitt, no.2, P 204.

contribution of the NPT is fully evident especially as a Regime to legitimate proliferation of nuclear weapons and their proliferation albeit amongst some countries. A look at the developments relating to the proliferation of nuclear weapons in the last fifteen years would highlight the real nature of the treaty. The comparative positions of United States and USSR in 1968, when the treaty was signed and in 1985 in respect of strategic launchers warheads and mega tonnage as follows.

TABLE I⁵

	ICBM's		SLEM's		BOMBERS		TOTAL	
	USA	USSR	USA	USSR	USA	USSR	USA	USSR
1968	1058	250	656	40	650	115	4500	850
1985	1052	1500	664	1100	348	140	1300	1000

Two sponsors of the treaty have

5. Table 1, See, K. Subrahmanyam, Nuclear Proliferation and International Security, (New Delhi: Institute of Defense studies and analysis, 1986), Page 10.

multiplied their warheads by three times and twelve times respectively in a period of seventeen years.

There are grave doubts about how far Article 1, has been respected by the sponsors of the treaty. The nuclear weapons Data Handbook lists the following nuclear weapons as having allied users (1) Gene (Air 2A) air to air rocket, (2) B 28 Thermonuclear bomb, (3) Honest John missile (4) Nike hercules missiles, (5) 8" artillery fired atomic projectile, (6) B-43 Nuclear bomb, (7) 155 mini artillery fires atomic projectile, (8) Pershing LA missile, (9) B-61 Thermonuclear tactical bomb, (10) Lance Missile. These weapons are under the custodial control of the United States and are meant to be issued to the NATO Allied Forces at the time of alert.

Of all nuclear weapons states, the USA has been the most egregious offender against this Regime. The US has adopted a frequently permissive attitude towards two nuclear maverick

states particularly Israel and Pakistan. This attitudes has followed both the states to reach or cross the threshold of nuclear weapons possession. It has had a significant ripple effect in eroding the credibility of the NPT regime since other potential proliferators can point to US laxness, and it has eroded the credibility of publicly stated US non proliferation commitments.⁶

The non proliferation treaty in a sense was converted into a legitimiser of nuclear weapons and proliferation by a limited nuclear number of nations in the world. Since the treaty was signed, the deployment of nuclear weapons in Germany and Japan have increased. Missiles of very short flight duration and high currency have been deployed. The nuclear weapons and nuclear war fighting infrastructure, particularly command, control and communication facilities have spread

6. Gerald G Smith and Helena Cobban, "A Blind eye nuclear proliferation," Strategic Digest Vol.XX, no.4, (April 1990), PP.2185 - 92.

out to 65 nations.

Proliferation of Ballistic Missiles, seems to have replaced nuclear proliferation, as the Chief concern of Western non proliferation establishment. The Arms control and Disarmament Agency in its annual publication "World Military expenditure and Arms Transfer 1988," highlights the concern over the spread of Ballistic Missiles to the third world. While the possession of Ballistic Missiles & its NATO allies, Japan, China and Soviet Union is treated as their legitimate prerogative, 16 countries are listed as ones whose endeavours to acquire missile arsenals aggravate instability, Egypt, Iran, Iraq, Israil, Libiya, Saudi Arabia, Syria, North Yemen, South Yemen, India, North Korea, South Korea, Pakistan, Taiwan, Argentina and Brazil.

The setting up of a seven nation Missile Technology control regime in April 16, 1987, came as no great surprise to many in the strategic community. In April 1987, when US, UK, France,

West Germany, Canada and Japan had set up a missile technology control regime designed to prevent the export of technologies which would create Missile systems capable of transporting a 5000 Kg payload over more than 300 Kms. Pressure was also placed on all other countries possessing such technology not to export technology or finished product.⁷

The reasoning behind the choice of export controls was sound, most advanced missile technologies being available in USSR and the seven Western Economic partners US, UK, Canada, Japan, West Germany, & Italy. The Missile Technology Control Regime consists of a basic policy statement, a set of guidelines to limit the conditions under which missile technologies may be transferred, an annexure listing technologies to be controlled and

7. Magnus Clark, "Ballistic Missiles in the Third World and Proliferation of Strategic Defence Technology", Arms Control Vol 10, no.-2, (Sep. 1989); Page 120.

an informal mechanism by which partners can share informations about potential transfers.

The items controlled by the Missile Technology Control Regime can be divided into two categories. Category one items are, complete rocket systems and unmanned air vehicle capable of delivering a payload of 500 Kg more to a range of at least 300 Km. Category two contains, a long list of items including propulsion components, propellant equipment, guidance component, flight control systems avionics, computers and software⁸.

The missile technology control regime partners also agreed on some basic ground rules for export control. First all transfer would be considered on a case by case basis, two the governments should implement the guidelines through national legislation, and third the exporting government would assume the

8. K. Bailey, "Can missile proliferation be reversed", ORBIS, (Winter 1991), page 9.

responsibility for taking all steps necessary to ensure that item was put only to its stated end use. The decision to export would remain the sole and sovereign judgement of the individual government.

The missile technology control regime is a nuclear non proliferation tool. As it derives from the nuclear non-proliferation regime, it is specifically designed 'to control the transfer of equipment and technology that would contribute to nuclear capable missile'. As the MTCR guidelines are written, a country that does not have the capability or intention to possess nuclear war heads is a suitable recipient of missile technology.

The Missile technology control regime is not a legally binding treaty. It relies upon the understanding among partners.

The Missile technology control regime does nothing to dampen the motivation of states

seeking Ballistic Missiles for military purposes. This is in stark contrast to the nuclear non-proliferation treaties under which States proclaim their decisions to refrain from acquiring nuclear weapons. In contrast, the MTCR is imposed on those without missile technology, by those with missile technology.

The Arms control and Disarmament Agency report states with cynical "Self Rightiousness" the very presence of these weapons in the conflict prone Regions in the world aggravate instability. The potential for accidental launch take over of launch facilities by sub national groups or use of missiles to intimidate neighbours or to pursue territorial ambitions is significantly higher in the third world than it is among traditional missile states.⁹

9. K. Subrahmanyam, "Missiles around India compulsions for self reliance", Times of India, (January 30, 1990)

In India, it was conceived as a hegemonistic instrument, an extension of NPT to retain exclusive control over weapons of mass destruction. While India is for the elimination of Chemical and nuclear weapons but it feels that international peace cannot be attained by accepting unequal treaties and discriminatory Regimes perpetuating the hegemony of certain powers over the rest of the world.

After arming themselves with accurate long range missiles, the industrialised nations are attempting to disarm the unarmed, namely the developing nations and hence the sanctimonious proposals about the missile technology control regime.

In case of chemical and Biological weapons, the US agrees with the third world that they must be banned world-wide. But it insists that it cannot carry out its responsibilities to the defence of the allies unless it has nuclear weapons and Ballistic missiles. It opposes any

proposal for their world wide abilities. It pines its hope on the missile technology control regime which restricts exports of certain missile technologies and components to the third worlds for countering the worriersome phenomenon of purchase or indegenous development of missile by many countries of the third world.¹⁰

One of the distinguishing features of non-proliferation as an arms control problem is the presumption of a fundamental line of discrimination between those states that one allowed to retain nuclear weapons and those who are asked to abjure them. The policies of supplier nations cover a wide range of interests and concerns, political economic, commercial, financial and technological. The evolution of nuclear export policies of supplier nations has been moulded by the tension between the alarm over

10. T.V.Parasuram, "Proliferation of Ballistic missiles", PTI Feature, (March 10, 1990) Page, PF-D694.

the dangers of nuclear proliferation on one hand and on the other the desire of supplier nations to secure economic return by exporting nuclear products.¹¹

China and Soviet Union are outside the missile technology control regime and have been willing to make available ready made Ballistic missiles to their clients and allies to assist with semi-indigenous programme. The USSR has supplied scud B of 300 KM range and short range "Frog-7" alone to Libya, Syria, Iraq and "Frog-7" alone to North Korea. The Iranian Missiles "Iran 130" is of Chinese origin. Pakistani "Haft-1" and "Haft-II" missiles are reported by Arms Control and Disarmament Agency to have been developed with the help of Chinese and Western European countries. China is believed to be considering the sale of

11. Mark J Moher, "The Policies of supplier Nations", ed., in David B Dewett, Nuclear Non Proliferation and Global Security; (Toronto: Croom Helm Ltd., 1987), P.85.

its new M-9 and M-11 Medium Range Ballistic missiles, which are more accurate and reliable than the Soviet made scud used by Iraq, and has already sold a series of missiles technology to other nations.

Besides throw weight of the range of missiles and the yield of nuclear arsenal that Pakistan has acquired, it is necessary to understand why confirmation to the fruits of its clandestine activities come from Washington which has been giving the regime in Islamabad, a goodconduct certificate over the past decade. For long the US government certification that Pakistan does not have nuclear weapons capability was backed by several million dollars packages of conventional state of the art weapon like the F-16, fighter bombers, Stinger missiles, pre-emptive electronics and tanks, that would boost Pakistan's confidence vis a vis India.¹²

12. Cecil Victor, India the security Delimma, (New Delhi: Patriot publishers, 1990), Page 174-76.

It also epitomises the utterly discriminatory nature of the nuclear milieu. Having become nuclear weapons powers, these nations have banded together to prevent others from taking the same route by imposing full scope safeguards on nuclear materials. Similarly discrimination is apparent between the allies and the others. Thus China, Israil and Pakistan can get away with overt or covert arsenals. On the other hand India, whose nuclear capabilities are acknowledged but has voluntarily aligned a weapons programme is being asked to reprove its innocence.

Just as the US strategic policy objectives vis-a-vis Afghanistan overrode non-proliferation concerns in respect of Pakistan, the same is likely to happen in case of missiles too. The London suppliers club in respect of nuclear weapon related components and equipment failed to halt the flow. So will the missile Technology control Regime established at the US instance.

All this leads to the in exhorable

conclusion that missiles in the hands of industrialised nations and China are highly destabilising and endanger international peace because they are passed on to other countries. So long as the industrialised nations and china have missiles in their arsenals they will be in a position to supply those missiles to the most favoured nations, as when it suits their policies. Given the record of interventionism of industrialised nations their selectivity in high technology weapons transfer and the consequent spread of nuclear and non nuclear missiles all around the world India has no Option but to pursue with utmost vigour its integrated guided missile programme.

The Defence Research And Development Organisation anticipating the Introduction of the Missile Technology Control Regime, started in 1983, to develop critical technology which it would not be able to get from other countries. These technologies are still being shaped in advanced industrial countries for their missile

programmes. They include the focal plane array, millimeter wave radar system, the W Band impact diode, C band phase shifters and carbon carbon performers. Besides the DRDO other organisations are also involved like the council of Scientific and Industrial Research and Central Electronics limited. Another high technology project is the phased array radar configured for tracking multiple targets and command guiding multiple missiles simultaneously. This goes into the Trishul system. This Radar has multiple arrays, each with several thousand ferrite phase shifters at different frequencies. These frontier technologies are prohibited from being transferred under the Missile Technology control Regime.¹³

Fortunately, the Missile Technology control Regime, to which Japan is also a partner came about too late to effect the Indian

13. K. Subrahmanyam "India enters the missile age - new thinking for a new era," Times of India, (July 13, 1990).

programme, but the intent remains. However, the Missile Technology Control Regime became a blessing in disguise. Since such missiles were not going to be available through imports, there was an alternative to self reliance.

Since the 1950s the major nuclear weapons nations have led the way in establishing elements of a non-proliferation Regime designed to prevent nuclear proliferation. The challenge of today and the future will require at minimum that this Regime be based on a binding, comprehensive, commitment to non-proliferation. Non-nuclear weapons states are prone to distinguish between the Rhetoric and Reality of nuclear weapons states non-proliferation activities, viewed generally India's response to the pressures were really no different from those of other nuclear weapon states. India refuses to accept in exchange the weak and wedging assurances of support offered by nuclear weapons states for rendering its weapons for future. India has been an active participant in Nuclear weapons and non

nuclear weapons states dialogue. While rejecting one way application of nuclear restraints, it has nevertheless expressed its cautioned willingness to assume burden in a system of shared and balanced obligations between non-nuclear weapons states and nuclear weapons states.

CHAPTER III

THE GENESIS OF INDIA'S GUIDED MISSILE PROGRAMME

Space technology has fascinated man over the years. Newtons study of motion and of earth's gravitation laid the firm theoretical foundations for the study of the motion of the Rockets, Artificial Satellites and the Solar system. Research on Rockets was initiated by Goddard in the United States and Tsialkovsky in the Soviet Union prior to World War II. The military use of long range Rockets came first from the Germans during the last years of World War II. ¹ A Guided Missile generally speaking is any military Missile being capable of being guided or directed to a target after having being launched. The developing nations acquired the Missile technology from the developed world as they evolved one

1. B.D.Choudhary "After Agni the need to coordinate Space Defense Research", The Telegraph, (Calcutta, 4 July 1989).

generation of weapons to another. The purpose of this chapter is to trace the development of India's Guided Missile programme. Whilst a strict chronological approach is avoided, the decision who essentially linear.

The use of Rockets and missiles as an essential part of modern day weaponry is not exactly new to India. Although the Chinese are credited with having invented the rocket around 13th century A.D. , one of the first leaders to harness it for war, was Hyder Ali of Mysore. In the late 18th century he introduced the Rockets in his war arsenal and his son Tipu Sultan used Metal clad rockets with telling impact against the British in the battles at Sirangapatnam in the 1790's.²

Aron Karp has outlined the way in which

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2. Tushar Bhatt and S.Srinivasan, "Trail Blazing with Agni," The Telegraph, Sunday, (28 may, 1989).

a nation can acquire ballistic missiles capability. The first is indigenous development which is fraught with problems for nations of the developing world. In this case, missiles are developed as spinoffs of space launch programme. The second method would be to acquire ballistic Missiles and modify them to suit the local requirements. The SAUDI missile deal was the first instance of the transfer of IRBM³

The Indian Nuclear and Space programme was the brainchild of Homi Bhabha. Acutely aware of the political advantages of possessing nuclear weapons and ballistic missiles to deliver them, Bhabha also realised that no nation would directly provide India with these systems. He then envisaged a programme whereby nuclear and space programme would provide the necessary civilian spinoffs. This approach first bore fruit with the

3. Ravi, Shastri, "The spread of Ballistic missiles", Strategic Analysis, Vol XII, No.2,, (May 1988), Page 158.

explosion of PNE in 1974.⁴

The Indian Missile programme can be regarded as a spinoff of space launch programme. The Indian space programme began in 1963, when the Indian Space and Research Organisation ISRO started launching a series of sounding rockets. Vikram Sarabhai, under the aegis of Indian Atomic Energy Commission, began to use instrumental rockets of undistorted cosmic radiations particularly in the Region of Geomagnetic equator. Sarabhai invited Alfven a Swedish Scientist and between them the first space programme was put together to study the near earth behaviour of cosmic radiation. Thumba, near Trivandrum, being quiet close to the geomagnetic equator, gave India a specially useful launch for solar and cosmic ray exploration.

The Indian Space and Research

4. Amit, Gupta 'Agni' Defence & Diplomacy, No.10, (Oct.1990),

Organisation had been set up with centres at Ahmedabad, Bangalore, Trivandrum and Sriharikota. A parallel path was followed by the Ministry of Defence, setting up of an Aero Missile Board for the development and production of Rockets and missile weapons systems. The Indian space and Research organisation's mission was to develop and place into orbit communication satellites for telecommunication and television broadcasting. By the 1970's India had put its own satellites into space with Soviet assistance. This was followed by the successful launch of SLV-3.

The PNE scientists then discussed developing a delivery capability against Pakistan. This was expanded in 1978 to include China and thus the foundations were laid for the developing IRBM's. Permission to build Missiles finally came in 1983, in the form of larger programme of Integrated Guided Missile Programme. At this stage an interesting decision was made to divorce Indian Space and Research Organisation from the project and hand it over to the Defence Research &

Development Laboratory, the apex body to carry military R & D programme.

Dr. Abdul Kalam, the Chief Architect of the SLV-3 programme was chosen to head the missile programme run by the DRDL in Hyderabad. The Integrated Guided Missile programme was funded at the level of Rs.780 crores for a period of 10 years, beginning in 1983. Out of this Rs.30 crores had been set aside for AGNI. The intention was to carry out possibly three test launches and then go ahead for the missile programme, in the mid 1990's, which would naturally involve political decision-making.

There is a great deal of communality and relevance in the technologies required for different types of missiles, propulsion systems, flight control, navigation and guidance systems. Similarly microprocessors of control and guidance of different missiles have applications related to each other. An integrated approach facilitates efficient application of technological effort and

expertise to develop different types of missiles as compared to piecemeal development. An integrated approach is cost effective and offers the advantage of achieving self reliance at an earlier stage.⁵ The Integrated guided Missile programme aimed at the production of a family of missiles, namely "Prithvi", "Trishul", "Nag", "Agni" and "Akash".

The short range 'Surface to Air' missile 'TRISHUL' is the most ubiquitous of all DRDL missiles as it has a wide spectrum of likely applications open for it. Apart from being an effective SAM system, it can also be employed as an anti-sea surface missile. "TRISHUL" a truck mounted, low level, quick reaction missile with 9 Km. range was tested on April 29, 1987.⁶

The 'PRITHVI' surface to surface missile has the most important set of new technologies and

5. ibid, no.4, pp.589.

6. SANGO PAWAR-"India's emerging missile shield," Front (August 11 - 17 1990), Page 23.

displays few similarities with missiles in other countries. Prithvi was launched from Sriharikota Rocket Launch Station on February 25th 1988. The guidance and the control system of the 'PRITHVI' is quite complex which forces the Missile to move on a predetermined optimised Trajectory stored on board. The various on board software packages developed and integrated by the DRDL are considered to be a major achievement. Prithvi was the first Indian missile to cross the three figure barrier in kilometers and therefore is considered a worthy forerunner of AGNI.

The 'NAG' , a third generation anti tank missile, using imaging infra-red seeker with a "fire and forget" capability, with a range of 4 to 6 km is scheduled for user trials in 1992.

AKASH, a patriot like 'transportable' missile is another ambitious project being undertaken by the DRDO. This missile would be part of the defence of vital areas and vital centres. Essentially it would be a command centre

with a number of batteries. The centre would be capable of handling a number of incoming targets from high to medium attitude at distances of 25 to 30 Km. ⁸

The AGNI, a byproduct of the Integrated Guided Missile Programme, is a hybrid vehicle combining the first stage of SLV-3 launch vehicle, propelled by solid fuel and PRITHVI battlefield support missile flight tested in february. On May, 22, 1989 India test launched AGNI, the first intermediate range ballistic missile, the range of such a missile under the INF treaty being classified as 500 to 5,500 Km. ⁹

8. Manoj Joshi "The significance of Agni" The Hindu, (May 24, 1989).

9. The INF treaty has classified missiles by their range. Those with a range of 500 to 5,500 Km are called Intermediate Range Ballistic Missiles. Missiles with ranges over 5,500 Km are termed as Intercontinental Ballistic Missiles. Short Range Missiles have a range below 500 Km. Cruise Missiles have a range excess of 11,000 Km.

The primary mission of AGNI was to test the performance of an indigenously developed heatshield, a key hardware in weapon delivery system. The heatshield is meant to protect the warhead from the intense heat of friction generated during the fiery entry of the payload through the atmosphere at a very high speed. In the absence of a good heat shield the warhead vapourises. AGNI's launch was the test of a heatshield carrying a dummy warhead.

The test of the missile was extremely successful with the trajectory almost embarrassingly accurate following a predetermined course. The test was carried on a range of 1000KM. Another critical technology tested was that of the re-entry vehicle i.e. the ability of the specially designed dummy warhead to re-enter the atmosphere without burning out or going out of control due to various forces during re-entry and strike the target with some degree of accuracy.

Unlike the 'PRITHVI' which is described

as a missile with identifiable user service by the Army, the 'AGNI' is described in official literature as a 'Technology Demonstrator' with no identifiable user.

Dr. Abdul Kalam, the Chief designer of the missile 'AGNI' emphasised that the missile was unique in the sense that no other country had followed the path of developing a two stage missile with one liquid and one solid stage.¹⁰

The war of words over the AGNI IRBM continued with its designer insisting that it is fully indigenous, while the western sources accuse India of importing German technology. The CIA believed that Dr. Abdul Kalam and his colleagues used the knowledge gained from the NASA Scout Rocket programme in which they had participated. The CIA Director William Webster pointed out that

10. "Agni Technology a success", The Hindu (27 May, 1989).

India had received from West Germany a shipment of Beryllium to enhance the fission reaction."¹¹

Gary Milhollin, professor of law in the University of Wisconsin has alleged that the real parantage of AGNI is United States and West Germany. Milhollin enunciates that the AGNI's first stage motor, heatshield and guidance system came from the Indian Space effort which was launched and sustained by foreign help.¹²

Milhollin states that India's Space programme began with the launching of more than 350 US, French, Soviet. British Sounding rockets from Thumba Equatorial Rocket Launching Centre. Among the first group of Indian scientists who

11. Mila News, No.334, Vol XXVIII, (August, 1989)

Mila News, No.332, Vol XXVIII, (June ,1989).

12. Gary Milhollin, Bulletin of Atomic Scientist (November 1989), Page 45-49.

learnt the rocket launching and range operation in the US, was Dr. Abdul Kalam, commonly regarded as the brainchild behind AGNI. Milhollin states that Dr. Kalam learnt the technology during a four months training visit in 1963 to NASA Langley Research Centre in Virginia. On his return to India, Kalam built the SLV-3, India's first satellite launcher. Its design, says Milhollin, is virtually identical to the 23 meter 1st stage of Agni. Milhollin contends that the West German Aerospace Agency Deutsche Forschungsgemeinschaft für Luft - Fahrt and Raumfahrt (DLR) gave Indian scientists training in the manufacture of rocket nozzels and nozzle cones. In this aspect Kalam contends that the heatshield had been developed in India and that it had been used for the first time in the world.¹³

To create an effective strategic shield apart from 'AGNI' and 'PRITHVI' the need to

13. "Agni is our own asserts Dr. Kalam, "News Time, Hyderabad, (15 June, 1990).

develop an air launched cruise missile system deserves to be carefully evaluated as it offers tremendous flexibility, in case the land based strategic deterrent limit around the AGNI is threatened, by a crippling first strike from India's potential adversaries.

The Integrated Guided Missile Programme was the logical extension of the Indian Space programme. The decision to develop Guided Missiles, taken in 1983, were dictated by a mixture of national ~~kurbis~~ and circumstances whereby Hyderabad emerged as the nerve centre of India's Defence Research Renaissance. The DRDL Hyderabad together with the research centre "Imaraat", threw in thousands of people, in possession of considerable talent, which they used to urge the realisation of civil as well as military potential of Guided Missile. In the past 3 decades Missile technology has progressed rapidly to enhance the range, accuracy and manoeverability of missiles. We are now

witnessing the 'third' and 'fourth' generation of missiles with 'fire and forget' capabilities and terminal guidance incorporated into them. The importance of cruise missiles has been recognised by DRDL. The infrastructure is largely available within the country. The Pilotless Target Aircraft made by the Aeronautical Development establishment can be regarded as a good starting point to begin the development of cruise missile system.

CHAPTER IV

AGNI - NATIONAL PERCEPTIONS

PART I NATIONAL REACTION

India took a significant step towards self sufficiency in missiles on May 22nd 1989, when the Intermediate Range Ballistic Missile Agni, soared over the Chandipur range in coastal Orissa at 7.17, AM making it the sixth nation to join the exclusive IRBM club. This chapter examines the implication of India's guided missile programme by focussing on the launching of the IRBM 'AGNI', which represented a symbolic act of defiance vis-a-vis the superpowers who had sponsored the NPT. The focus of this chapter is on the national perceptions of the Agni Test. It should be noted that the external analysts task in the field is particularly difficult one because of the highly secretive and elitist nature of Indian decision making process regarding nuclear issues, the ambiguity in New Delhi's declaratory policy regarding such matters and the dual purpose for

which advanced nuclear technology can be utilised to achieve technological self reliance and implied security benefits. The literature on the topic indicates that India's missile programme originated from differing approaches to security, economic calculations, pragmatism and prestige. In this context it is necessary to perceive the impact of the Agni test, which created ripples in the National arena.

The successful launch of Agni was welcomed by politicians and journalists of widely differing political affiliations as a major achievement of Indian science and technology, that was expected to lead to a much more influential role in global affairs. While the military implications have some what been downplayed, Indian political elite are too aware of its strategic implications. Following the Agni test, the then Prime Minister, Rajiv Gandhi argued that it represented a step towards safeguarding his country's independence. He noted that "India lost its independence two centuries ago, because we

were disunited at homefront and not vigilant on the external front. We must remember that technological backwardness leads to subjugation. Never again will we allow our freedom to be so compromised."

Bharat Wariawalla Indian strategic analyst argued that the main reasons for embarking on the Ballistic missile Agni, were technical and political. Technologically, India like other developing countries has had great difficulties in trying to develop combat aircraft. The political argument was based on the fact that nuclear weapons were seen as a currency of power.

In fact India's leading strategic analyst K. Subrahmanyam, has argued that Agni marks a significant factor in international power politics. If it is followed by a successful ASLV, PSLV & ICBM tests then there can be no future international arms control negotiations without India's participation. India's voice will be heard with much greater attention than has been

hitherto. One sixth of humanity would come into International decision making, means greater democratisation of the process. K. Subrahmanyam adds "It is only a Neo Colonialist mentality which sees Western, Soviet and Chinese possession of missiles as stabilising and India's as destabilising."¹

Agni marks an essential step in filling a vital gap in Indian security. India till then had no known defence against a missile attack. Agni with its accurate guidance capability appears to be the only answer to the missiles that Pakistan is developing. An important use of the IRBM Agni is to put a string of military observation satellites which in various countries have photographed every centimeter of sensitive installations in the country.

The Indian technological elites have demonstrated that Agni is nothing more than a

1. ibid, Amit Gupta, no.4.

"Technology Demonstrator. It also represents a future commitment of Indians to be self-reliant in defence production. The booster of Agni could be used for launching satellites, for applications as varied as military surveillance, communication, weather data collection telemetry and radar.

Agni is much more than a technology demonstrator. It is a signal to the great powers that India has acquired technology in the status to which great powers are based. The external factor behind the test has been the promotion of India's position in her relations with China and the superpowers. The test could be regarded as an implicit message to India's real or potential opponents highlighting the ability to react according to specific circumstances.

Agni is an important shot in the arm for the Indian psyche, which likes to believe that, if others can do it, the Indians can do it better.

AGNI re-enforces India's role as the

Regional Superpower in the South Asian region. Having emerged as the dominant power in the South Asian region, after the 1971 war with Pakistan, India has been flexing its muscles in the region, often bilatantly bullying its weaker neighbours into submission. Agni has signalled to the South Asian states that India is capable of developing high technology weapons system, which if necessary can be converted into military one within a very short time. That Indian leadership has made continued reference to Pakistan's possession of Short Range Ballistic Missiles, to Saudi Arabia's possession of Chinese made CSS-2, IRBM's and Israil's Jericho-II Ballistic Missiles, means that Agni is an attempt to counter the growth of ballistic missiles in the region and hence create mutual deterrence.

By launching Agni, India has demonstrated beyond doubt that we really need to acquire adequate and credible defence for our security against external threat, and that India has not and will not succumb to relenting

pressures from the West.

Bharat Wariawalla says that India has built up its nuclear and delivery potential, yet at the same time, has not publicly declared its nuclear status. Such a strategy has the advantage of allowing India to put all components of a nuclear force into place without facing international repercussion of having a public nuclear force. Thus India's nuclear blast was called a "PNE" and AGNI called a "technology demonstrator." The problem with this approach is that it goes against the whole notion of having nuclear weapons as a currency of power. If a nation wishes to have the status of a great power it must be able to display its currency openly. Since India is unable to do this, this ambivalence actually works against the notion of acquiring nuclear weapons for international status. As Wariawalla writes credibility of Deterrence rests on the certainty of the nuclear weapons. But the ambivalence in the nuclear strategy is an open invitation to miscalculations and accidents. He

enunciates that Agni was a meaningless voyage when it was just described as a technology demonstrator.²

The public opinion polls indicated that majority favoured the test, though there was general scepticism among the intellectuals about the nature of the test.

Professor Dhirendra Sharma enunciated that the euphoria created by the successful launch of the missile Agni was not a Eureka because in spending more than 15,000 crores of our meagre resources, 80% of our citizens have received little in terms of GNP. India's entry into the superpower club is meaningless, without first providing its citizen with the basic necessities. Our space odyssey in real term offers no return to the masses. There are no strategic parameters which necessitate the spending of our meagre

2. Bharat, Wariawalla, "Agni a meaningless Voyage," Sunday Mail, (April 30, 1989).

resources on non-productive and obsolete weapons system.³

The decision of glorifying AGNI was according to Dhirendra Sharma just another political gimmick to hoodwink the electorate, when RajiW Gandhi needed to give a fill up to his sagging popularity.

It is significant to note that not even the members of NAM congratulated the Indian Prime Minister on the demonstration of an aggressive posture of greatness. If our immediate neighbours and friends in the third world are not proud of this technological achievement then there is something amiss in our doctrine of defence.

The launching of Agni has further alienated this country in SAARC and other Third World States. From now on India will be equated

3. Dhirendra, Sharma, "End game", Sunday Observer, (28 May, 1989).

with those who speak of world peace with a double tongue. Agni will ignite further hostility, mistrust and will accentuate the missile race in South Asian region.

The Delhi Government's expensive space odyssey is likely to lead to another nuclear race, resulting in unprecedented increase in the demand for resources. Our social welfare and rural development plan will be the first casualty.

The opposition leaders denounced the launching of Agni and emphasised that it was demonstrated only to suit some narrow political gains. The Janata Dal leaders opposed it on the ground that it would sow the seeds of nuclear war. If India engaged itself in building vehicles for nuclear strike what would prevent the devastation being let loose on India from Tibet or Diego Garcia, in event of a nuclear conflict which would vapourise Bombay, Delhi and Calcutta in less than 5 minutes.

The Congress-I has been consistent in its support to the Integrated Guided Missile Programme, in its efforts to convert India into a Regional Superpower. On the other hand the Janata Dal's approach had been one of opposition to the location of the Test Range and to the Missile Programme. The contrasting approaches of the Congress-I and the Janata Dal specifically indicate how the perceptions of the latter changed when it came to power and the State's security became its major concern overriding the developmental consequence of the Missile Programme.

DS Bilveer criticising the launching of the Agni missile enunciated that like Soviet Union in the Gorbachev era, India has become a one legged power, its most successful achievement has been the development of its war machinery. But when it comes to providing for the people it is an example par excellence of a disastrous Third World

State.⁴

The Defence services themselves may welcome the new missile but are unwilling to make cutbacks in spending on conventional system to buy them.

In recent years there has been a growing concern about the size of the defence budget. Such concern comes not from general public but from the economic planners within the country who feel that India cannot sustain a continuous military growth raising the important question of "guns or butter" Ashok Mehta emphasizes the fact that unlimited budgetary resources are allotted for nuclear and other defence linked research. There is hardly any accountability how these resources are spent.⁵

4. Dr.S.Bilveer, "India Fires into the Missile Age," Asian Defence Journal, (1989) page 31-35.

5. Ashok Mitra, "Bread or Ballistic Missiles," News Time, (17 May 1989).

However, the missile programme is not exorbitantly costly to the nation. One estimate says that the Agni may have cost about 30 Crores. If this is compared to the cost of a Mirage or Mig-29, then it is not particularly counterproductive. Major General KS Fendse writing on the defence budget brought out that no rational Indian would wish to do without defence. The defence budget has increased over the years. Pitched at 2% of the Gross Domestic Product before 1962, the defence budget rose to 3.5% of the GDP touching 4% in 1988. But these are meagre allocations compared to China's 10% and Pakistan's 7% of its GDP for defence excluding US aid.⁶

Those who ascribe the sluggishness of the Indian economy's growth to defence do so possibly out of their conviction about the need for universal disarmament than because of any proof in direct support of their contention.

6. Major General K.S. Fendse, Hindustan Times, (30 May, 1989).

Gavin Kennedy in his book "The Economics of Defence" has argued that there is no set pattern of substitution between defence and non-defence sectors.

The arguments that the defence efforts are costing the country a great deal of development has to be challenged. While our defence efforts have remained at a constant level of 3.5 to 3.7% of GDP our savings and investment rates have gone up from 11% in 1960s to nearly double the figures in the 1980s. It is quite likely that by reducing the defence efforts by 1 to 1.5% will not lead to the increase in the pace of development. Therefore, it is necessary to delink the usual 'guns versus butter' argument and to support economising the defence of the nation.⁷

7. Mathew Thomas, Indian Defence Review (January to July, 1989).

PART II
THE BALIAPAL AGITATION - A CASE STUDY OF THE
DEVELOPMENTAL IMPLICATIONS OF THE MISSILE
PROGRAMME

The function of the modern state in India, the maintenance of National Security, the implementation of development and acquisition and subsequent management of science and technology have moved to transform Indian Society and Economy. The development of techno-economic structure has also denuded the erstwhile local intermediate systems of production. The development of the Missile Testing Range in Baliapal Bhograi has led to displacement and dislocation. The entire area of the natural environment and the peoples whose livelihood depend upon it have been deemed indispensable to the needs of development and national security.

A clear expression of the conflict

between 'dispensable space' and 'defensible space' between the State and the people is to be found in North Orissa in the Bay of Bengals coast, where the Central Government intended to forcibly evict and reallocate approximately 95,000 people from their home and make way for a national test range, a site for testing satellites and long range missiles. The Baliapal Bhograi area in the Balasore district was chosen for the site. The decision was taken following detailed studies by expert committee for six years since 1979. The Committee found the Baliapal Bhograi site, as the only suitable site, having all advantages of a test range based on scientific, logistics and technical consideration compared to other places in the country.⁸

8. Dr. Sujatha Patel, Asok Prasad, Joseph Mahai and Krishnendu Ray, A report "On the Balliapal Missile Base & the People's Struggle," Bheeta Mati, PUDR, Delhi, (August, 1988).

Although the original decision to set up a National Test Range was made in 1979 by the Janata Government and pursued by the Congress-I when it came to power in 1980, it was not until July, 1985 that formal announcement was made that Baliapal Bhograi had been chosen as an appropriate site for NTR covering 102 sq.kms. and 55 villages. JB Patnaik described it as a Puja Gift to the people of Orissa from Mrs. Gandhi. Since then a militant movement has grown in the area against the government decision to take their land "Bheeta Mati" and reallocate them elsewhere.⁹

The sustained nature of the agitation against the National Test Range in Baliapal as well as its militancy is to a larger extent due to the mass involvement of the people including the poorer sections.

The agitation in Baliapal was formally

9. Paul Routledge, "Dispensable space, Defensible space - The conflict over the National Testing Range in Orissa," South Asia Bulletin Springfall 1988, Page 98-104.

launched in December 1985 with the formation of Uttara Balasore Khepanashtra Ghati Pratioda Samiti and since then it has become one of the most militant agitation in the country. It is an agitation that has been able to mobilise people from all classes in society and has broken down barriers of caste, gender and age thus making it a mass agitation. It has been able to garner the support of all major political parties on the fringes of Parliamentary process for its objectives. Active support for the agitation extends all the way from Marxist -Leninist group to the Congress (I) at the village and the block level. In a dominant political climate, vitiated by narrow political objectives and consideration of political gain, the support of wide spectrum of political parties and group for the agitation reflects not only the political strength that it commands but also its political maturity for not compromising for narrow political gains.¹⁰

10. Sujatha Patel "Balliapal Agitation - Socio - Economic background", Economic and Political Weekly, (25 March, 1989), Page 604-605.

The twin issues of displacement and rehabilitation have been the source of the growth of many agitations in the country in the recent past. What distinguishes this agitation from the others of a similar nature is the mass involvement of the people in this area irrespective of vertical and horizontal hierarchies as well as its militancy.

In a state characterised by extreme poverty the green paddy fields of Balasore are oasis of relative prosperity. Balasore is the rice bowl of the state. It is one of the most fertile agricultural land in India producing a variety of crops including Betel leaves, Coconut, Groundnuts and Cashew. Proximity to the coast and the Subernarekha river also enables the people to earn a living through inland sea fishing. The area is also one of the most densely populated in Orissa. Bhograi having 600 persons per square km and Baliapal with 397 persons per sq.km.

The local villagers do not question the issue

of arms or the necessity of defence preparedness. The appeal lies on the fact that if destructive weapons are a must for a nation then another site must be chosen for testing such as a desert or a sparsely populated region.

The defence establishment of USA, France, China, Great Britain could work out these missile centres in marshy islands, forests and deserts, but our defence scientists and personnel want easy going areas at immense social cost to our citizens and have rejected places like Andaman, Sunderbans, Dwarka and Gujarat on some plea or the other. America's long range rocket and missile Testing centre at Cape Kennedy is the longest missile range and space centre in the world. In establishing it not a single house was demolished, nor a single man was displaced. Great Britain has set up its missile testing range in the Victoria Desert. The French Government had established their test range in Polynesian group of Islands namely Wallis and Futiana at about a distance of 12000 miles from France. Here they had to face a

hostile demonstration from the local inhabitants. The states in the south pacific ocean formed a forum to carry the agitation and resolved to make south pacific ocean a nuclear free zone. An enhanced France ultimately had to move out to French Guiana in South America in the Atlantic coast a distant 8000 miles from France and located their test Range and space centre there. The Russians have located their centre in Siberia whose area is 53 lacs square miles, where hardly one person lives in one square mile. China has located its launching range centre in central China, in the mountain^{OUS,} belt which is a confused mass of low hills, not suitable for human habitation. China is using vast areas of Gobi desert in central China for such a purpose.¹¹

The government has stated that it has strong technical reasons for choosing of Baliapal

11. Nilamoni Routray, "On Test Range for testing arms and amunitions in Different Countries", Letter to PM Rajiv Gandhi, (16 June, 1986).

over other sites for this project. The Balasore coast is shaped like a crescent with Baliapal located on its tip. Since missiles require intensive monitoring immediately after launch, the crescent shape is ideal for monitoring from land. Balasore has excellent infra-structure facilities. It has also a firm soil conducive for supporting heavy structures needed for a launching pad. Though Balasore is cyclone prone, this part of the district remains free from disturbances. Additionally bay of Bengal unlike the Arabian sea is fairly free from international air and sea traffic.

Even before the formal announcement for land acquisition, the movement was mobilised by Gadadhar Giri, a long respected leader of the area associated with Praja Socialist Party who fought for the right of the peasantry in this area. After the official gazette notification the movement which was largely spontaneous in nature acquired a formal shape. The Uttara Balasore Keshepanstra Ghati Pratiyoda Committee was formed

in December 1985 which then led the agitation.

A district level coordination committee was set up with Brajnath Rath a noted progressive poet as its convener. A public meeting was held at Balasore, in which all opposition parties and groups participated. These included the Janata Party, CPI(M), Socialist Unity centre of India and Unity centre of Communist Revolutionaries of India. In 1987 another district coordination committee was set up, the convener of which was Arun De.

A significant difference on perspective regarding the NTR exists between the various members of the Resistance committee in that, members of Janata, CPI, CPI(ML) acknowledge the national security needs of the state and hence accept the necessity of the national Test Range. They merely oppose the specific location in Baliapal Bhograi. The UCCRI (ML) (Unity Committee of Communist Revolutionaries of India Marxist-Leninist) and the Institute of the Motivation of

Self Employment (IMSE) who have been organising in the area since early 1985 oppose the location and the very existence of the test Range. Indeed a strong feeling exists among the activists of the area that the principle reason for the political parties involvement in the struggle is to wrest electoral support in the area, the support being spilt between the Congress-I and Janta^a Parties. It is also felt that these parties, because they accept the principle of the necessity of NTR will eventually bargain for the best rehabilitation deal they can obtain from the State rather than to continue to resist the construction of the base. The opposition party came to power in the constituency with the pledge that they would not allow the National Test Range to be established in that Region. But the pledges of the leaders did not materialise into real policy action as a result of which, the people of the region feel betrayed and are consequently engaged in a continuous process of opposition to the establishment of the National Test Range.

The National Front governments stand on the National Test Range project at Baliapal has upset the people of Baliapal. The announcement of the Minister of Defense Dr. Raja Ramana, in the Rajya Sabha that there was no proposal for snapping the project has belied the hopes of the people. V.P.Singh's statement in parliament that there was no proposal to shift it from Baliapal has put the Orissa Janata Dal leaders in an uncomfortable position. The state Dal leaders are now at a loss as to how to face the Baliapal people for the proposed Test Range in a centre's project and not a state government's project.¹²

The movement is defensive in nature seeking to preserve the status quo by resisting the base and dislocation of the traditional culture. The villagers have adopted an extra-constitutional approach to the protest using non-

12. S.P.Nanda "Centre's stand on Balliapal upsets Orissa Dal", Telegraph, (Calcutta 11, June 1990).

violent, non-cooperative methods of resistance. Government officials and representatives were prevented from entering that area. To enforce this, four checkpoints were set up. The roads approaching the Baliapal Bhograi area were barricaded with bamboo and trenches dug in order to stop government vehicles. In Baliapal, a Maran Sena (Delhi Suicide squad) of 5,000 people comprising women, children and men has been created by UCCRI (ML). A similar group Freedom Brigade was organised by IMSE. The area was effectively sealed by villagers refusing to pay bank loans and taxes. In 1985-86, the villagers refused to pay land revenue of Rs.100,000. In concert with these forms of resistance the movement has also held bandhs, mass public meetings and conducted demonstrations.

The local villagers do not question the issue of arms or the necessity of defence preparedness. According to Mrs. Sujatha Mehta, a spokesman of KGPS their appeal is innocuous. They are merely asking to be left alone in their

islands of peace. If destructive weapons are a must for a nation, then another site must be chosen such as a desert or a sparsely populated region. This would not only explode into an environmental issue but it would also be a denial of fundamental right of security to the people who are already underprivileged.¹³

Professor Manoranjan Mohanty, alleged that the choice of the location of NTR in Orissa during the congress regime was due to its political vulnerability since it was a Congress ruled state. Other potential sites were rejected such as West Bengal and Andhra Pradesh because they were under opposition rule. They preferred the Eastern coast which undergoes much silting and as a consequence has much shipping backlog. Orissa also has defence projects in a district, which is an asset for NTR coordination.

13. "Scrap Test Range Plan," Times of India, New Delhi, (22 December, 1989).

The response of the Government to this resistance has followed the model of integration and repression. More subtly the government has pursued a three fold approach of seduction, coercion and mediation. The first approach, seduction has come in the form of rehabilitation and compensation plan worth Rs.127 Crores announced by the Central Government in 1986, with the hope of placating popular resistance to the missile range.

The plan intended to relocate the people of Baliapal Bhograi into model villages upto 15 KM away from their present homes. The model villages would contain schools, hospitals, community centre, post offices as to ensure people its good intent. Nine industries including oil, leather and tool manufacture would be set up to provide direct or indirect job for one member of every displaced family.¹⁴

14. Central Government Report, (1986)

Several factors however draw into the question of feasibility of the supposed good intent of the government scheme. Firstly it was announced by the government on September 4, 1986, that 11,000 acres out of revised total of 21,000 acres required for the range, was considered government land, which had been encroached upon by the local farmers for many years. The government had announced that it would evict the encroachers without compensation from the land but would compensate for any structures and standing crops. Secondly, given the population density of Balasore district 357 persons per square KM, it appears to be improbable that even the official estimate of 45,000 people can be resettled within a 10 - 15 Km range of their present residences.

Concerning the establishment of industrial complexes, certain economic and cultural factors need to be considered. Firstly evictions are planned before the new factories are due to be completed, hence forcing evictees to seek work elsewhere until employment at factories

becomes available. Secondly there is no guarantee that the evictees will be able to perform industrial jobs. Past experiences of the developmental projects in India have shown that local people do not eventually obtain the bulk of new jobs created except those that are insecure, temporary and contractual. Hence the traditional farmers who are fisherfolks will be forced to apply for work in factories becoming skilled, semi-skilled and unskilled factory workers or employed artisans and shopkeepers. Also since the government plans to create only one job for each family, the other members of the family would be left without any alternative employment.

For the people of Baliapal Bhognai area, whose livelihood and culture are intimately bound to the land and river coastal water, the severance of their working relationship with the natural environment of the community culture, which has developed as a result of this relationship, amounts to cultural ethnocide, a process that is

occurring throughout India as the local culture is destroyed throughout the process of development.

The response of the government to this resistance has shifted from the initial attempts at seduction and cooption, via rehabilitation schemes to systematic programme of increasing coercion. Repression by the government has taken several forms. Firstly they set up an unofficial economic blockade of the area, whereby, essential commodities such as kerosene and sugar were no longer made available to the villagers. The government imposed deterrent fines on bullock carts and vehicles leaving the area. The area was deprived of any help from developmental anti-poverty 20 point programme for over 3 years on the plea that personnel were not allowed in that area. In Feb.1986, 24 Magistrates accompanied by 3000 armed police attempted to enter the area to explain the residents the reason for the choice of the site. Undaunted by the show of force, 20,000 villagers formed a human blockade across the road

and prevented them from entering that area.¹⁵

The State Government has increasingly been deploying personnel of Orissa State Armed police into the area. By late 1988, 14 Battalions of armed police had been deployed. This was followed by an abortive attempt by the state to bring forced eviction of the villagers in the Baliapal Bhograi area, named Operation Baliapal on May 10th and 11th, 1988. However a series of events led to the action being called off. The plan was widely publicised in the Indian Press, thus alerting the opponents of the imminent danger. Secondly the OAS officers rejected the plan of Balasore district Collector to involve themselves in the operation. Under the leadership of Biju Patnaik, the leader of the Janta^a Opposition, who emerged at the vortex of the peoples movement, grabbing for himself, the role

15. Paul Routledge "Balliapal - Bhograi Theatre of War, Theatre of Displacement," Statesman, (April, 1988).

of the sole adjudicator of the movement, mediation talks were held indicating to the likelihood of bloodshed in the region if the operation continued.

After the stiff opposition to the creation of the National Test Range at Baliapal, the site had to be moved 30 KM to Chandipur. The local tribals opposed their eviction from the Chandipur site too. People of 15 villages formed a Purbanchal Surakshya Samiti to spearhead the agitation. In the end the government went in for a compromise. Instead of permanently, evicting all the tribals, it was decided that a core area would be cleared permanently and the rest of the zone cleared only during the actual launching of the missile AGNI.¹⁶

The Indian State views the North Orissa economy and community as dispensable to the

16. "Where there is will and no discernable way"

The Hindu, (5 February, 1989).

needs of National Security through seduction, coercion and mediation, The State is determined to evict the villagers and construct the missile base. The National Front Government had sanctioned the setting up of NTR which was further approved by the Jan^ota Dal (S) when it came to power. The peoples movement meanwhile continues its resistance in ^a Eliapal Bhograi, the Central and State Governments continuously attempting to suppress the movement by creating dissensions in the movement.

CHAPTER - V

INTERNATIONAL PERCEPTIONS OF INDIA'S GUIDED MISSILE PROGRAMME

The successful launch of the missile AGNI has generated a considerable political debate in the international arena. Given the apprehension explicable in terms of disturbance of nuclear balance in South Asia, the impact of the scenario, especially in the period when Agni was launched was undoubtedly great. This chapter displays a certain pattern of international response to Indian guided missile programme. The classificatory scheme, I have outlined is conceptually an analytical frame work for discerning the responses of four nations USA, China, Pakistan and USSR to the demonstration of indigenous missile technology by India. From an analytical perspective the identification of the distinct perceptions assures the delienation of the major attributes of the event. The international reaction to the Agni test has been

on predictable lines. Reaction of an adverse or critical nature has emanated from the United States and Pakistan, whereas the Socialist world especially USSR has applauded India's achievement.

US perceptions of India's guided missile programme

The US perceptions of India's guided missile programme are shaped more by the possibilities to inhibit American force projection capabilities in the Indian Ocean Region and the maintenance of techno-military superiority in pursuit of its global interests.

According to a congressional research service study, global proliferation of Ballistic missiles would unfavourably affect the United States security objectives either directly or indirectly.

As more countries acquire missiles with longer ranges, not only US military installations, business establishments and citizens abroad may be

affected, but the US troops engaged in conflict are likely to be threatened by missile attacks.

With the direct threat to US friends and allies in South Asia, the Middle East and the Pacific rim; increasing with range, accuracy and destructiveness of missiles, the likelihood of United States being drawn into a regional conflict will increase, if the existence of its client state is threatened or if any missile deployment creates a military asymmetry against its interest.

The existence of missiles in the hand of developing nations like India, due to their speed and penetratability may offset the existing balance derived from conventional weapons development in some inherently combustible third world regions. As effective counter measures against missile attack have not been developed even by the superpowers, ballistic missiles would bring in a new dimension of vulnerability to the existing security equilibrium.

The US policy makers emphasise that besides the existing nuclear powers, who have sizeable missile capabilities, nations like India, Argentina, Brazil, Pakistan, Isreal, Iraq, South Korea and Taiwan are nuclear threshold states pursuing an undeclared nuclear programme, mating a nuclear warhead to a missile force would not only increase the damage potential but provide a strong psychological dimension to terror factor in international politics.

The US policy makers insist that arms race would burden the constrained third world economies by diverting resources towards escalating nuclear arms race. This would have indirect impact on the economic field by accelerating the demand for aid from United States through the forums of New International Economic Order.

The American concern over development of Agni should be viewed at two levels. The first level of concern is with global proliferation of

advanced weaponry and ballistic missiles and the restraint it can impose on the US forces projection interest, more specifically the impact of emerging Indian potential in the Indian Ocean region in general and US regional clients in particular.¹

The second level concerns relate to perceived future Indian capacity to graduate from the IRBM technology demonstration to a nuclear capable ICBM.

The US arms transfer policies in post war period assumed that the industrialised West would invariably maintain sufficient technological lead

1. Leonard and Spector: Hearing before the Subcommittee on Arms Control of the Committee on Foreign Affairs, House of Representatives; "Missile proliferation: The need for controls MTCR," US government printing office Washington DC, July 12 and October 10 1989, page 67.

to counter the growth of the military potential of third world countries. The maintenance of techno-industrial satisfaction was implicit in the concept of stability.

Long before it splashed down in the Indian Ocean, Agni caused ripples in the capitals of the West especially Washington, which is the head of a cartel to prevent the acquisition of missile related technology to selected developing countries. Our missile programme was sought to be killed in the cradle by the United States. The United States had threatened to impose trade sanction against India if it went ahead with the Agni test. The US offer of high-tech equipment is merely a ploy to gain control of Indian indigenous effort at self reliance. The offer of electro-optical sensors for the national Test Range at Baliapal was a bait of a similar kind meant to secure a commitment from India and thereby inject delays in the missile programme. The launching of the missile Agni was postponed twice on April 20th

and May 1st due to US pressure and technological snags.

Naturally the final launch of the IRBM Agni evoked the expected serious concern from the Bush administration and sharp condemnation by non proliferation advocates in the United States. Senator Jeff Bingaman, Chairman of the Senate subcommittee on defence has said that India would be barred from receiving any high technology items from the US because the Agni launch showed that India was diverting such technology from its civilian space programme to Ballistic missile programme. Mr. Bingaman also asserted that US should scrap its assistance to New Delhi's civilian space programme because the Agni launch showed that India's credibility after it argued that such a programme was for peaceful purposes, had been diminished.

The well known US think tank, the Rand Corporation has come out with a report of the relative decline of the Western economic and

military power over the next two decades. It forecasts that India and Brazil will gain relative power and influence besides Japan and China. The United States looks with apprehension at the growing nuclear power of some developing nations which would make intervention so costly as to rule it out as an instrument of policy against those nations.

An objective assessment of the US reaction so far would indicate a reluctant acceptance of the realities of the indigenous programme in the key area of National Security. At the same time hardliners in the US state department like Deputy Assistant Secretary Howard Schaffer perceived it as a 'contentious' issue with the Indo-US relations. The State department of US was willing to go as far as to use foreign aid as a lever to curb missile proliferation. Jim Hind the Deputy Assistant Secretary of Defence for Negotiations Policy, in fact argued for transfer of US missile technologies to the allies and

friends to promote stability.²

The US Congress is said to be considering a proposal to open the intermediate Nuclear weapons Freeze Treaty to the developing countries. Les Aspin, Chairman of the powerful House of Armed Services Committee said that the past policies of technology denial had failed to stem the global arms race, the developing countries should be invited by the Soviet Union and the United States to join the INF on an equal footing.

The perception of India's policy reflected in the criticism of the missile programme is however, unfair. India had earlier pointed out to the US that there was no logic for singling out India for criticism.

2. Jasjit Singh "The Strategic Deterrent Option"
Institute of Defence Studies and Analysis
Strategic Analysis, (September, 1989) Page
586.

The report from Washington suggesting that India had given assurance to the Bush administration that it would not mass produce the Agni IRBM underscores the arcane factors that govern international relations. The possibility that the US government will try and put economic and political pressure on India over Agni and its family of missiles has already become a fact as expressed by the US threat to impose sanction against India for alleged improper trade practices in Super - 301.³

To a large extent the popular American perception is of a Soviet tilted India inspite of acknowledging that there is absence of any ideological disposition and that such linkages have been cultivated by the Indian interests responding to benign arms transfer programme. The logic of Indian military expansion is explained as

3. Cecil Victor, India the Security Delimma, (Patriot Publishers, New Delhi, (1990), Page 176.

subscribing to India's self image of a regional great power and its desire to be on par with China. But to assume that the expansionist Indian aspirations are predominating national sentiment, amounts to willful obfuscation of India's concerns and responsibilities towards its socio-economic priorities and its democratic practices.⁴

A sense of injury accompanying the American accusations of West German assistance to the Indian Augmented Satellite Launch Vehicle overlooks the German leadership given to the US space and Missile programme at the end of world war-II. These anomalies in the US policies towards India will ascribe the Indian Missile programme

4. Ravindrapal Singh, Indian Ballistic Missiles Development, Possibilities and Potentialities, Strategic Analysis, (January 1991), Volume XII No.10. Page 1153-1154.

with similar motivation as Libiyan programme.⁵

Such sentiment not only abound in literature on international relations published in the US, but have found their way even to the cover of the Times. The American information industry is capable of turning their perception into fact, the myth of militaristic India in the march has also manufactured into a fact.⁶

Pakistan's Perceptions of India's Missile Programme.

5. Geoffry Kemp, Hearing before the Subcommittees on Arms Control of the Committee on Defence Industry and Technology of the Committee on Armed Services, United States Senate, "Ballistic missile proliferation in the Third World, US Government printing office, Washington DC, (May 1989) page-80.

6. Times Weekly "Super India, The next military power", (April 3, 1989).



Pakistan due to its traditionally antagonistic posture in relation to India has voiced the American concerns more vociferously. Besides the history of 3 Indo - Pak conflict and tensions over Kashmir, in the absence of confidence generating political dialogue, that contribute to fears, quiet often transgress the realms of reality. Undoubtedly, the security concerns in Pakistan would get aroused with Indian ballistic missile development, ;the press has usually being alarmist more to the fact that this time India has been able to introduce an advanced technology in the region earlier than Pakistan.

According to Pakistan Chief of Army Staff, General Mirza Aslam Beg, given Pakistan's proximity to India and the limited depth of its territory, the 250 KM range Prithivi is more menacing than the 2500 KM range Agni. ⁷

7. Mushahid Hussain, Times of India, New Delhi, (May 26, 1989)

Whereas others feel that India is bound to upset the hitherto tranquil atmosphere in the region and the pretext of problems of Indian expropriates could be reason enough to intervene in the Gulf region. Reduction of Pakistan as a credible military force would be enough temptation for an attack on Pakistan, even by a nuclear armed Agni, which in any case is beyond the reach of Pakistan's retaliation.⁸

Pakistan foreign minister Sahabzada Yaqub Khan strongly reacted to the development, speaking in the Upper House in Islamabad he enunciated that India's massive armament policy, its acquisition of nuclear submarine and testing Agni missile where causes of serious concern to Pakistan. This posed a threat to regional security as well as to international peace.

8. Daily News, (February 28, 1989)

Chinese Perception of Indian missile Development

The Chinese Ballistic Missile developments were a national corollary to building their nuclear weapons capability. By early 1970's they had several MRBM's and IRBM's while the ICBM project was being developed concurrently.⁹

The Chinese concern on Agni has been close to indifference and apprehension. Having noted the Indian Missile development capability, the Chinese perception as reflected by Beijing think tank on international security issues, views the the Indian missile development as its own national security matter that, it has no relevance

9. Jane Nolan, "Trappings of Sovereignty: Balistic Missiles in the Third World", Monograph submitted to the Brooking Institution Washington. DC (January 22, 1990) Page 168.

to China.¹⁰ The Chinese wonder how they could be concerned by the Indian missiles when they do not feel any apprehension even from the American Missiles. Where as the American scholars are rather concerned at the threats that its successors can pose to Beijing and constantly their writings and testimonies are leading to the belief that Agni's development might lead to Chinese reaction to target India which will trigger an era of unprecedented nuclear tension between the two Asian giants.¹¹

The only country to come out in open support to the Agni test, was Soviet Union. The Soviet support to India was among the first nations in the developing world to whom Soviet Union offered military hardware in 1954. The Soviet support to the Indian missile programme may sound paradoxical vis-a-vis Gorbachev's peace

10. World Armament and disarmament, SIPRI Year Book, Stockholm, (1972) Page-2.

11. Ravindrapal Singh, no. 4, Page 1156

initiatives and call for universal disarmament but if viewed in the context of the continuation of the policies as embodied in the Indo Soviet treaty of 1971,¹² it was the most logical response. Thus the totality of this relationship could not be discarded in Soviet reaction to the Indian missile programme.

USSR's perception towards the development of Ballistic Missile by India has been shaped by certain factors. The first factor emanates from USSR's encouragement to India to accelerate its technological development. Secondly Soviet Union understands India's place and role in the modern world. The Soviet Union feels that

12. Indo - Soviet treaty 1971, The essence of the Indo Soviet friendship treaty was the mutual recognition of the importance of two vast aggregated of national territory and population and the benefits that the nation would derive by working together for peace and development.

India is not merely a South Asian country, but a great power whose impact on international events is likely to increase.¹³

The Soviet support to Indian security has lent the Indo-Soviet relationship a unique quality over the years. The Soviet Ambassador to India Victor Isakov described the Agni test as a great achievement technologically and maintained that it would not constitute to a missile race in the subcontinent,¹⁴

While praising the development of Indian science, Isakov scorned Western observers for their double standards of accepting Pakistan's assertion that its nuclear and missile programme

13. I.K.Gujral, "Friendly bonds with India" World Focus, (October - November 1988), Page - 60

14. Dr.D.S. Bilveer, Agni, India fires into the Missile Age, Asian Defence Journal, (September, 1989), Page 33.

are for peaceful purposes and doubting the Indian missile programme.

The successful testing of family of missiles produced in the Indian laboratories was a heartening development after decades of dependence on foreign sources and license production arrangements. The bedrock of our non-alignment is freedom of choice that the country has exercised in fulfilling its requirement of military equipment. Agni created ripples in the West especially the US, whose preception was based on fallacies of conventional wisdom, that ballistic missiles inevitably imply nuclear weaponry and secondly that, US power was eroding vis-a-vis the Third World. Pakistan was highly apprehensive about India's missile, potentialities especially the Prithvi missile, China was less spectical though the American's highlighted that the Chinese muted response was of deceptive nature Soviet Union welcomed India's demonstration of missile technology and self sufficiency in the defence sector. India tested the Agni missile even in the

teeth of US pressure not to do so in order to break out of unending lasso of US diktat. The decision to test the Agni missile against unfavourable international situation was a very significant assertion of independence and has proved to the world that India has the capacity and technology to deliver a nuclear punch.

CONCLUSION

The portrait that emerges from the foregoing chapters, substantiates the fact that India's Integrated Guided Missile programme has attracted considerable attention in the present decade. It generated responses both in the National and the International arena. The National perception towards this demonstration of missile technology was more of a favourable response, where majority of the Indian Defence Scientists, politicians and common masses applauded India's admission into the IRBM club. The opposition leaders and the economic planners ignoring the burgeoning burden of India's Security imperatives were naturally sceptical about the escalating costs.

The international response was more varying from overreaction by the United States and Pakistan, to muted response by china and encouragement by Soviet Union. Their perceptions being shaped by their self interests and differing attitudes,

to the

development of the Missile Technology by India.
^ This research has brought out the contrasting approaches of the capitalist and the Socialist Worlds in their perceptions to the development of the Integrated Guided Missile Programme. Such comparisons have been motivated by a set of theoretical concerns. It illustrates America's sceptical attitude towards the Indian Missile programme, as an attempt to thwart the development of a survivable and deliverable nuclear force, by nuclear-capable developing nations like India, harping on the fear of instability in the regions leading to an accidental launch.

The US arms control and Disarmament agency has increasingly looked to techniques developed to combat proliferation of nuclear weapons, as a model for controlling missile proliferation. Since the control over the export of technology and materials production had proved quite effective in slowing the spread of nuclear technology, the same technique was employed to fight missile proliferation. USA worked out with

its six economic partners an effective system of export controls that came to be known as the Missile Technology Control Regime. In particular, the unilateralism, the strategy of denial and obstruction, the leverage and complications that form the content of US non-proliferation approach have already proved counter-productive in India. The current non-proliferation Regime, its sanctions and stances, cannot succeed in curbing the National venture. It has in turn become a blessing in disguise to develop indigenous technology.

The perception of USSR was in line with the policy of friendship and cooperative embodied in the Indo-Soviet treaty of friendship of 1971. The Soviet Union's interest in maintaining close ties with New Delhi, made it tolerant of the latter's transgression of the non-proliferation norm. While all indications point to the direction, that China was very unhappy about the AGNI test, yet it was very restrained in voicing its displeasure. Pakistan was more violent in

denouncing this demonstration of technology which would threaten its very interests.

At the prescriptive level this research carries the implication that India's Guided Missile programme is a fully legitimate venture. Nuclear technology occupies a very important place in the modern world, therefore India's concern is to develop it in the most comprehensive sense as an integral component of its goal of technological modernization. The coercive powers of the nuclear weapons states, vis-a-vis non-nuclear weapons states have been noted as also the security concerns arising therefrom. India faces an adverse situation in its neighbourhood surrounded by existing and potential nuclear powers. The requirement for India is a ballistic Missile capability capable of deterring nuclear threats from China, Pakistan and Superpower rivalry in the Indian Ocean.

The aforesaid situations have led India to the mastering of Missile technology, the

institutionalised search for, more important innovations in the development of Research and Development facilities. Since its inception the Defence Research and Development Organisation's activities have been, stupendous for developing Indegenous weapons system and exploring new areas of technology. In a short span of eight years the Defence Research and Development organisation has successfully tested a family of missiles namely TRISHUL, PRITHVI, AGNI, AKASH and NAG.

The development and deployment of Guided Missiles by India has been a remarkable technological breakthrough in the nuclear field. It demonstrates the fact that the nuclear idiom has spread from the developed to a developing nation like India. The incentives and motivations for achieving self-reliance have been strong and compelling for India to avoid dependent-relationship and assert her independence in international affairs.. This assertion of sovereignty by the demonstration of technological self release has been more diffused in its

political impact. It has generated considerable controversy among the public, media, parties, economists, defence strategists and international actors about the Indian intent in developing Ballistic missiles. The Indian government has repeatedly insisted that the development of the Integrated Guided Missile Programme was essentially an extension of India's Research and Development effort. This commitment to use the Missile force for peaceful purposes, surveillance, weather data collection is visible from the fact that AGNI has not entered the services. Thus in keeping with the principles of defensive defense, India would refrain from having an Intermediate Range Ballistic Missile force. The decision to do so will essentially be a reactive one.

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