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AIR POWER

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EDITOR'S NOTE

The spectrum of war or conflict has indeed enlarged to domains that are beyond the military in the strict meaning of the term. Whilst it is essential that we are ready and prepared for military conflict at the conventional level and indeed in the nuclear dimension to try and ensure deterrence, we have to be ready to combat other forms of conflict as well. Good intelligence is the key, but we should also have systems to effect synergy amongst the different government agencies involved in national security in the enlarged meaning of the phrase. In many cases, there has to be recognition of the interdependence of the different government agencies, particularly those charged with internal and external security, and diplomacy. It is equally important that we have the ability to speedily and effectively act, react or respond to a situation with the inherent ability to ratchet up or down the intensity of our activities. The inherent characteristics of air power that offer such graduated responses have often been reflected in this journal. The current issue addresses many of these issues.

Shri NN Vohra, Governor of Jammu and Kashmir, delivered the '1st Air Cmde Jasjit Singh Lecture' on July 18, 2014, on the subject of 'Management of National Security: Some Concerns'. Shri Vohra is arguably the foremost expert in the field, particularly in the internal security domain, and his talk was very well received; the same is included as the lead article in this issue of the journal. It is a 'must read'.

The capabilities and advantages of an aircraft carrier are well known. However, there are some problems and issues in the defence of an aircraft carrier and a scholarly article by an expert in naval matters, Vice Adm Pradeep Chauhan, finds place in this journal. Also included are three scholarly works: an article on a "National Security Strategy for India" by BK Singh, a regular contributor; an article by Air Mshl Kukreja on the future

challenges and roles of air power; and an article on a new nuclear paradigm by one of our Research Fellows, Sitakanta Mishra. Work by two other scholars from the Centre of Air Power Studies (CAPS) on the Intermediate-Range Nuclear Forces (INF) Treaty and on the Ukraine imbroglio also finds place in this issue.

Two other articles in this journal merit particular attention. A young scholar from CAPS has, in his "Terror in the Deep and Dark Web" highlighted the lurking dangers that go well beyond the known cyber domain and the urgent need to address the subject.

The last article is by a young student of Manipal University who interned with us and wrote a paper on "Deconstructing Al Qaeda's Terrorist Network in India". This is another article we are pleased to publish.

We are particularly proud to bring out this issue.

Happy reading.



MANAGEMENT OF NATIONAL SECURITY: SOME CONCERNS

N.N. VOHRA

I feel privileged to have been asked to deliver the First Air Cmde Jasjit Singh Memorial Lecture to remember Jasjit Singh who, after a long and distinguished tenure as director general, Institute of Defence Studies and Analyses (IDSA), served as the director of the Centre for Air Power Studies (CAPS) from the day it was established till he passed away last year.

I compliment the chief of the Air Staff, the chairman and members of the Board of Trustees and director of the Centre for Air Power Studies for establishing an annual lecture in the memory of Jasjit Singh. My very long association with this scholar air-warrior commenced in the mid 1980s when the Air Headquarters (HQ) released him for joining the IDSA. For nearly three decades, till he passed away last year, I had known Jasjit closely and was associated with several of his initiatives to enlarge awareness about security related issues.

Jasjit Singh had a very distinguished career in the Indian Air Force. During the 1971 War, he led a fighter squadron and was awarded the Vir Chakra for gallantry in the face of the enemy. He later commanded a MiG-21 squadron, served as director of flight safety and director of operations

Shri N.N. Vohra, presently Governor, Jammu and Kashmir, has formerly been Defence Production Secretary, Defence Secretary, Home Secretary and Principal Secretary to the Prime Minister.

The lecture was delivered at the India Habitat Centre on July 18, 2014, as the First Air Cmde Jasjit Singh Memorial Lecture organised by the Centre for Air Power Studies, New Delhi.

at Air HQ before he retired from the air force to join the IDSA, which he steered for nearly a decade and a half. A prolific writer, he authored and edited several dozen books. Among the many important tasks handled by him, Jasjit served as the convenor of the Task Force which was set up by the central government in 1998 to pave the way for the establishment of the National Security Council. He also served as a member of the first National Security Advisory Board (1999-2001). For his long and outstanding contribution in the arena of strategic studies, Jasjit was awarded the Padma Bhushan by the president of India.

My association with Jasjit was founded in our deeply shared concern about the progressively enlarging challenges to internal and external security and the need for evolving a holistic national security policy. Some years ago, we had planned to bring out a volume on the varied complex aspects of national security, in which Jasjit would write on issues of external security and I would deal with the challenges on the internal security front. As it happened, soon thereafter, I had to leave for Jammu and Kashmir (J&K) and this project could not proceed further. However, many of Jasjit's old friends and admirers present here today would be happy to know that the very last book which he wrote, *India's Security in a Turbulent World*, came out a few days after his sudden passing away! Earlier this year, the publishers of this book, the National Book Trust, brought out a reprint of this volume.

In today's lecture, I shall speak about the most urgent need for the central government to secure an appropriate understanding with the states for finalising an appropriate national security policy and putting in place a modern, fully coordinated security management system which can effectively negate any arising challenge to the territorial security, unity and integrity of India.

It would be useful, at the very outset, to state that, in simple language, the term "national security" could be defined to comprise external security, which relates to safeguarding the country against war and external aggression, and internal security which relates to the maintenance of public order and normalcy within the country.

The first generation of India's security analysts, who focussed attention almost entirely on issues relating to external security, had found it convenient to distinguish between issues relating to external and internal security. However, such a segregated approach is no longer feasible, particularly after the advent of terrorism which has introduced extremely frightening dimensions to the internal security environment. I would go further to say that issues of internal and external security management have been inextricably intertwined ever since Pakistan launched a proxy war in J&K in early 1990 and Pak-based *jihadi* terrorists started establishing networks in our country.

Our national security interests have continued to be influenced and affected by geo-political developments in our region and far beyond. In the context of the experience gained, it is extremely important that, besides all necessary steps being taken for safeguarding India's territorial security and establishing a very strong machinery to counter terrorism, close attention is also paid for effectively securing other important arenas, particularly those relating to food, water, environment and ecology, science and technology, energy, nuclear power, economy, cyber security, et al.

While evolving a holistic approach towards national security management, it would be relevant to keep in mind the fact that our country comprises an immense cultural and geographical diversity and our people, nearly a billion and a quarter today, represent multi-religious, multi-lingual and multi-cultural societies whose traditions, customs and socio-religious sensitivities are rooted in thousands of years of recorded history. It is equally important to remember that in our vast and unfettered democracy the unhindered interplay of socio-cultural traditions and religious practices carries the potential of generating discords and disagreements which may lead to serious communal disturbances, particularly when adversary elements from across our borders join the fray.

While it may appear somewhat trite to cite school level statistics, our security management apparatus shall need to consider that we have over 15,000 km of land borders, a coastline of about 7,500 km, over 600 island territories and an Exclusive Economic Zone (EEZ) of about 25 lakh

sq km. These awesome parameters and, besides, the extremely difficult geographical and climatic conditions which obtain in the various regions of our vast country present serious challenges to our security forces who maintain a constant vigil on our land, sea and air frontiers.

While it would not be feasible to recount the varied security challenges which India has faced in the decades gone by, it could be stated that the more serious problems in the recent years have emanated from Pakistan's continuing proxy war in J&K; *jihadi* terrorism, which has been progressively spreading its reach; the destructive activities which the left wing extremist groups have been carrying out for decades now; the serious unrest created by the still active insurgencies in the northeast region; and incidents of serious communal violence which have been erupting in the various states from time to time. Mention must also be made of the steadily growing activities of the Indian Mujahideen (IM), a terror group which has its roots in Pakistan. Another phenomenon, relatively more recent, relates to the emergence of certain radical counter-groups which have been organised with the primary objective of countering the *jihadi* terror networks. It needs being noted that the activities of such counter-groups have the potential of spreading disharmony and divisiveness which could generate widespread communal violence and result in irreparably damaging the secular fabric of our democracy.

The Pakistani Inter-Services Intelligence (ISI) has also been striving to resurrect Sikh militancy in Punjab by supporting the establishment of terror modules from among militants in the Sikh diaspora. The ISI is also reported to have been pressurising Sikh militant groups to join hands with the Kashmir-centric militant outfits.

The activities of the left wing extremist groups, which have been continuing their armed struggle for the past several decades to capture political power, are posing an extremely serious internal security challenge. While there may have been a marginal decline in the scale of incidents and the number of killings in the past few years, there has been a marked increase in the gruesome attacks by Naxalite groups on the security forces.

India's hinterland continues to remain the prime focus of Pakistan-based terror groups, particularly the Lashkar-e-Tayyeba (LeT) and IM. In

the recent past, indigenous groups comprising elements of the Students' Islamic Movement of India (SIMI) and Al-Ummah have perpetrated serious violent incidents in the country and, notwithstanding its frequent denials, Pakistan remains steadfastly committed to harbouring anti-India terror groups on its soil.

Having referred to some of the more worrying concerns on the homeland front, it would be useful to examine whether we have framed an appropriate national security policy and established the required institutions which are capable of effectively meeting the arising threats.

Before commenting further on this important issue, it would be relevant to keep in view that, as per the provisions in our Constitution, it is the duty of the Union to protect every state against external aggression and internal disturbance.

In the decades past, the country has had to encounter external aggression on several occasions and no significant issues have arisen about the Union's role and responsibility to protect the states against war. However, insofar as the Union's *duty to protect every state against internal disturbance* is concerned, all the states have not so far accepted the central government's authority to enact and enforce federal laws for dealing with terror acts, cyber offences, and other major crimes which have all-India ramifications. The states have also been opposing the central government's authority to establish new security management agencies with pan-India jurisdiction. In this context, an argument which has been repeatedly raised is that it is the constitutional prerogative of the states to manage law and order within their territories and that the Centre has no basis for interfering in this arena!

Undoubtedly, the states are constitutionally mandated to make all required laws in regard to the *police* and *public order*, take all necessary executive decisions, establish adequate police organisations and manage appropriate security management systems for effectively maintaining law and order within their territories. However, looking back over the serious law and order failures which occurred in various parts of the country in the past six and a half decades, it cannot be asserted that there have been no failures and that all the states have a sustained record of ensuring

against any breach in the maintenance of peace and security within their jurisdiction.

It may not be practical to detail the varied reasons on account of which the states have failed to timely and adequately deal with arising disturbances in their jurisdiction in the past years. However, it could be briefly said that, among the more significant contributory factors, the defaults of the states have arisen from their failure to maintain adequate intelligence organisations and well trained police forces in the required strength for effectively maintaining internal security within their territories. On many occasions, the states have also displayed a lack of political will to deal with an arising situation on their own. Instead, the general practice which has evolved over the past many years has been for the affected state to rush to the Union Home Ministry for the urgent deployment of the central armed police forces for restoring normalcy in the disturbed area.

Another factor which has adversely affected internal security management relates to the progressive erosion of the professionalism of the state police forces. This regrettable decline has taken place because of the day-to-day political interference in the functioning of the constabularies. Such interference has, over the years, caused untold damage and most adversely affected the accountability, the morale and the very integrity of the state police forces.

In the annual all-India Internal Security Conferences organised by the Union Home Ministry, many chief ministers have been taking the position that internal security cannot be managed effectively because the states do not have the resources for enlarging and modernising their police and security related organisations.

For the past over two decades, the Union Home Ministry has been providing annual allocations for the modernisation of the state police forces. However, it is a matter of serious concern that, over the years past, the central government has failed to evolve a national security management policy which clearly delineates the respective role and responsibility of the central and state governments. Nonetheless, whenever called upon to do so, the central government has been consistently assisting the states by

deploying central police forces, and even the army, for restoring normalcy in the disturbed area.

Considering the gravity of the progressively increasing security threats and also bearing in mind the constitutional prescription that it is the duty of the Union to protect every state against internal disturbance, it is important that the central government takes the most urgent steps for finalising the national security policy and the machinery for its administration, in suitable consultations with the states. The national security policy must leave no doubt or uncertainty whatsoever about the central government's authority for taking all necessary steps for preempting or preventing arising disturbances in any part of the country. In this context, it is regrettable that in the past years, the central government has invariably not been able to deploy its forces for protecting even its own assets which are located in the various states. The circumstances which led to the demolition of the Babri Masjid, and the grave consequences thereof suffered by the nation, are still far too fresh in our memories to call for any retelling.

Under Article 256 of the Constitution, the *executive power of the Union extends to giving of such directions to a state as may appear to the Government of India to be necessary for that purpose*. However, over the years, the Union Home Ministry's general approach has been to merely issue cautionary notes and not any directives in regard to an emerging situation. This approach, of sending out advisories, has not proved effective and, over the years, varied internal disturbances have taken place in different parts of the country, some of which have caused large human, economic and other losses.

After the national security policy has been finalised, the central government shall need to undertake, in collaboration with the states, a countrywide review of the entire existing security management apparatus and draw up a plan for restructuring and revamping it within a stipulated timeframe. While playing their part in such an exercise, the states would need to accept the important role which they are required to play in national security management and demonstrate their unconditional commitment to work closely with each other and the central government for ensuring against any assault on the unity and integrity of the country.

For the past nearly two decades now, there have been repeated pronouncements that the central government is promulgating a law for dealing with identified federal offences and establishing a central agency which would have the authority of taking cognisance of, and investigating, crimes which have serious inter-state or nationwide ramifications for national security. In this context, the proposal of setting up the National Counter-Terrorism Centre (NCTC) has continued to be debated for the past several years. A number of states, which have been opposed to the establishment of NCTC in its present form, have suggested that the proposed framework of this body should be entirely revised in consultation with the states. Some other states have urged that the NCTC should not be established through an executive order but through a law enacted by the Parliament and that it should function under the administrative control of the Union Home Ministry instead of under the Intelligence Bureau. As terror acts and other federal offences cannot be dealt with by the existing security management apparatus, it is necessary that the central government undertakes urgent discussions with the chief ministers to resolve all the doubts and issues raised by the states.

For commencing a purposeful dialogue with the states, with the objective of securing the requisite Centre-states understanding in the arena of national security management, the Union Home Ministry could beneficially utilise the aegis of the Inter-State Council (ISC), of which the prime minister is the chairperson.

For progressively enhancing meaningful Centre-states relations in regard to national security management, it would be useful for the central government to also consider various possible initiatives for promoting trust and mutual understanding between New Delhi and the state capitals. Towards this objective, to begin with, the central government could consider inducting representatives of the states in the National Security Advisory Board (NSAB) and the National Security Council (NSC), even if this is to be done on a rotational basis. The central government could also consider setting up an empowered committee of home ministers of states to discuss, and arrive at pragmatic solutions to, various important security

related issues, including the long pending proposal to set up the NCTC. In this context, it would be relevant to note that the nationwide consensus for introducing the Goods and Services Tax (GST) regime in the country, a crucial tax reform which involves a constitutional amendment for replacing the current indirect taxes, has been achieved by an empowered committee of finance ministers. It is reported that the GST is likely to be enforced in the very near future.

Some of the doubts voiced by the states about the management of security related issues arise from the style of functioning of institutions which are exclusively controlled by the central government. In this background, perhaps a more productive approach may lie in moving towards certain important institutions being jointly run by the Centre and the states. An excellent example in this regard is the Joint Terrorism Task Force (JTTF), established by the USA in the aftermath of 9/11. The Joint Terrorism Task Forces, located in various cities across the USA, include representatives from the federal, state and municipal enforcement agencies, and perform several important roles, including the clearing of all terrorism related information. Over time, functioning through joint institutions will enable the states to gain a well informed all-India perspective about the complex and sensitive issues which concern national security management and, in this process, also defuse their perennial complaint about the central government "interfering with the powers of the states in the arena of internal security management".

Needless to stress, if national security is to be satisfactorily managed, the states must effectively maintain internal security within their territories. Towards this end, they must urgently get to work for enlarging and upgrading their intelligence and police organisations and security administration systems. In this context, it is a matter for serious concern that the annual allocations for the police comprise an extremely low percentage of the total budgeted expenditure of all the states and union territories in the country. The scale of these allocations shall require to be significantly enhanced, particularly keeping in mind that about 80 percent of the annual state police budgets goes towards meeting the salaries and pensions of the constabularies and virtually no funds remain for undertaking the expansion

or modernisation of the state police forces. Time-bound action would also require to be taken to ensure that the sanctioned posts of police personnel, lakhs of which remain vacant for years in the states' and union territories' police forces, are filled up on a time-bound basis.

It also needs being recognised that the ailments from which the state police forces have been suffering, for decades now, shall not get cured merely by providing larger budgetary allocations for their expansion and modernisation. It is extremely important to ensure that police reforms, which have been pending for decades, are carried through without any further delay. It is a matter of utter shame that after nearly seven decades since independence, the police organisations in many states are still functioning under the colonial Police Act of 1861. Most states have also not taken the required steps to implement the Supreme Court's orders regarding the establishment of Police Complaint Authorities and State Security Commissions; segregation of law and order and investigation functions; setting up of separate intelligence and anti-terrorist units; and taking varied other required actions for establishing modern and accountable police forces which would enable the effective functioning of the security management apparatus.

It is also necessary to recognise that national security cannot be safeguarded unless the entire apparatus of the criminal justice system discharges its duties with competence, speed, fairness and complete honesty. Last year, nearly two crore criminal cases under the Indian Penal Code and special laws were awaiting trial. This sad state of neglect, accompanied by progressively declining conviction rates, has rightly generated the perception that crime is a low risk and high profit business in India.

The functioning of the judicial apparatus, particularly at the lower and middle levels, suffers from serious logistical deficiencies – grossly insufficient number of courts and judges, prolonged delays in filling up long continuing vacancies, lack of the required staff and essential facilities in the courts, and so on. Questions are also being recurrently raised about the competence and integrity of those manning the judicial system and, in the recent years, allegations of shameful delinquencies have been made

even against those who man the highest echelons in the judicial system, up to the august level of the chief justice of India!

Needless to stress, the most urgent measures are required to be implemented for enforcing complete objectivity and fairness in the selection and appointment of judicial officers and judges at all levels and stringent steps taken for enforcing the highest judicial standards and accountability for establishing a clean and strong judicial system which restores fear and respect among one and all for the Constitution and the Rule of Law.

Alongside the cleaning-up and revitalisation of the judicial system, it is necessary to weed out all obsolete laws and update and amend other statutes, many of which were enacted during the colonial era or in the early years after independence, to ensure their relevance in the contemporary context. For instance, the Indian Evidence Act needs to be urgently reviewed to, *inter alia*, provide for the permissibility of electronic evidence.

It is also necessary to ensure prompt and professional investigations, competent and time-bound trials, and award of deterrent punishment to all those found guilty of unlawful acts. Towards this end, it shall be necessary to create cadres of competent investigation officers and criminal law prosecutors and urgently enact a well considered federal law for dealing with the rapidly increasing economic offences. Drawn up in appropriate consultations with the states, such a comprehensive law should cover the enlarging spectrum of economic and other major offences, some of which are closely linked with the funding of terror and organised crime networks.

It would be incorrect to assume that serious threats to national security emanate only from the activities of Naxalites, terror groups and mafia networks. Corruption at various levels, with which the entire governance apparatus is permeated, is another factor which adversely impacts our national security interests. Year in and year out, for the past several decades now, major scams and scandals have been getting exposed and India continues to hold a shamefully high position in the Global Corruption Index.

It needs to be stressed that corruption vitiates and disrupts the Rule of Law and destroys the very foundations of the administrative and legal apparatus. The prevalence of corrupt practices at various levels generates

anger, despair and helplessness among the people at large, compelling them to lose trust in the functioning of the governmental machinery. Cynicism and the loss of hope engenders an environment which leads to the alienation of the common man, paving the way for attraction to the gun culture and extremist ideologies.

Past experience has also shown that corrupt and unseemly elements in the governmental apparatus sabotage national security interests from within and grave threats are generated when they act in nexus with organised crime and mafia networks.

As regards the subversion of the governmental machinery from within, it may be recalled that, consequent to the serial bomb blasts in Mumbai in March 1993, the Government of India had set up a committee to ascertain how Dawood Ibrahim and other mafia elements had been able to establish such powerful networks. The report of this committee (generally referred to as the "Vohra Committee Report" or the "Criminal Nexus Report") had concluded that, in several parts of the country where crime syndicates/mafia groups have developed significant muscle and money power and established linkages with government functionaries, political leaders and others, the unlawful elements have been able to carry out their criminal activities with ease and impunity.

Over two decades have elapsed since the Criminal Nexus Report was furnished. While I am unaware of the action which must have been taken on this report, there is little doubt that the criminal nexus has since spread its tentacles far and wide and poses a serious threat to national security.

The national security apparatus cannot function effectively unless it is manned by appropriately qualified, highly trained and experienced functionaries. It is, therefore, extremely important that well planned steps are taken for very early establishing a cadre of officers drawn from various required disciplines, selected on an all-India basis, who are provided the best available training in identified areas of expertise and deployed in the security management apparatus all over the country.

A proposal to set up a dedicated pool of trained officers, drawn from various streams, who would spend their entire careers in the security

management arena, was made by me in the Report of the Task Force on Internal Security, which had been set up by the National Democratic Alliance (NDA) government in early 2000. The Task Force Report (September 2000) had recommended the broad framework for establishing a pool of trained officers for manning the security management agencies run by the Government of India. This recommendation was approved in 2001 by a Group of Ministers (GoM) chaired by the then Union home minister and deputy prime minister. Thirteen years have since elapsed. The decision of the GoM has not been implemented, possibly for no better reason than that this matter has not been considered important enough!

The security environment, in India's neighbourhood and far beyond, has been progressively deteriorating. Grave consequences may have to be faced if there is any delay in revamping and tightening the security management apparatus which cannot continue to be run by functionaries of varied backgrounds who are drawn from one or the other service. To make up for the very considerable time which has already been lost, it would be enormously beneficial if the central government takes the bold step of establishing a National Security Administrative Service whose members, selected from among the best available in the country, are imparted intensive training in specialised areas before being deployed to run the security management institutions all over the country.

After the November 2008 terror attack in Mumbai, the Government of India had hurriedly enacted a law to set up a National Investigation Agency (NIA), on the pattern of the Federal Bureau of Investigation of the USA, to investigate and prosecute terror offences. As per its legal framework, the NIA has the authority to investigate and prosecute only certain specified offences which are committed within the country and which affect national security. The NIA has no extra-territorial jurisdiction and no powers to probe incidents which occur outside India, as for example the very recent militant attack on the Consulate of India in Herat. The director NIA does not have the powers, enjoyed by the directors general of police of states, to permit an investigating officer dealing with a terror crime to seize or attach property. Also, unlike as in the case of the Central

Bureau of Investigation (CBI), the NIA is not empowered to depute its investigating officers abroad for direct interactions with a foreign agency which is investigating a major terror act which directly or indirectly affects our national security interests.

The NIA's functioning in the past six years also shows that the police authorities in the states are reluctant and take their own time in handing over to the NIA even major crime cases which may have serious inter-state or nationwide ramifications. Many offences, including major Indian Penal Code (IPC) crimes which may be directly linked to terror activities, have still to be brought under the NIA's jurisdiction. Thus, briefly, the NIA, as presently constituted, does not have the legal authority for taking the required action to preempt or prevent a terror crime, even when it functions in coordination with the concerned states. Needless to stress, the NIA needs to be fully empowered, on the most immediate basis, if it is to serve the purpose for which it was established.

In the context of the problems and issues about which I have briefly spoken this morning, it would be seen that, even after the gruesome terror attack in Mumbai, in November 2008, our country has still to evolve a national security policy and put in place effective mechanisms for implementing it. Also, the ground has still not been cleared to promulgate a well considered federal law under which a fully empowered central agency can take immediate cognisance of, and promptly proceed to investigate, any federal offence, within the country and abroad, without having to lose precious time in seeking varied clearances and going through time consuming consultative processes. Any delay, which is inherent in working within a consultative system, would have the grave danger of virtually ensuring the failure of investigations, particularly as the terror groups strike their targets and get away with lightning speed.

In the background of the brief overview of the more worrying national security management concerns which I have presented to you this morning, I would like to conclude by briefly reiterating that:

- India is facing progressively increasing security threats from across its frontiers, as well as from within.

- The absence of a bipartisan approach has led to several states questioning the central government's leadership role in national security management. Insofar as the discharge of their own constitutional responsibilities is concerned, most states cannot claim a sustained record of maintaining peace and tranquillity within their own territories.
- As a general practice, which has been continuing for a long time, instead of progressively improving the capability of their police and security maintenance apparatus for effectively dealing with arising disturbances, the states have been perennially seeking assistance from the Union Home Ministry, whenever a problem arises in their territories.
- While the central government has been, without any exception, providing assistance to the states by deploying central police forces, and even the army, for restoring normalcy in the disturbed areas, the states have never been questioned about the reasons for their failure to maintain internal security, nor about their failure to deal with the root causes of the recurring disturbances in their territories.
- The Constitution of India prescribes that the states shall be responsible for the maintenance of public order and that the Union government has the duty to protect the states against internal disturbances. A holistic national security policy and the mechanisms for its administration must be urgently finalised in suitable consultation with the states. The central government must not lose any more time in evolving the required Centre-states understanding for effective national security management.
- Besides finalising the national security policy, the central government shall also need to take time-bound steps for:
 - establishing appropriate institutions/agencies for effective security management across the length and breadth of the country;
 - enacting laws and establishing all required processes and procedures for the prompt investigation and trial of federal offences;
 - establishing a National Security Administrative Service for manning and operating the security management apparatus in the entire country.

To conclude, I shall yet again reiterate that if the security, unity and integrity of India is to be preserved and protected, then there is no more time to be lost. The central and state governments must immediately forge the required understanding and take every necessary step for ensuring that there is not the slightest chink in the enforcement of national security.

DEFENDING THE AIRCRAFT CARRIER

PRADEEP CHAUHAN

It is axiomatic to state that India, as a sovereign independent nation, desires to use the seas for its own purposes while simultaneously preventing others from using them in ways that are to its disadvantage. The ‘**ability**’ to attain these twin objectives is what is known as ‘maritime power’, which comprises political, economic and military components. The primary ‘instrument-of-state’ for the exercise of the **military** component of maritime power is the Indian Navy — and, to a limited degree, the Indian Coast Guard. Indeed, within the Maritime Zones of India (MZI), which extend to the outer limits of our Exclusive Economic Zone (EEZ), the Indian Navy functions in seamless coordination with the Indian Coast Guard. Beyond the EEZ, however, the Indian Navy is the sole maritime manifestation of the sovereign power of the Indian Republic. Thus, on the one hand, the Indian Navy (along with the Indian Coast Guard) is the enabling instrument of maritime power, ensuring India’s own use of the seas. On the other hand, the navy is also the **preventive** instrument of India’s maritime power against the use of the seas by ‘state’, ‘non-state’ and state-sponsored-non-state’ actors in ways that are inimical to India.

As a direct result of India’s political decision to have a foreign policy that abjures any and all military alliances, the Indian Navy cannot afford to ape any of the ‘niche-navies’ of the world such as several European/NATO (North Atlantic Treaty Organisation) Navies. In other words, it cannot afford to ‘specialise’ in

Vice Admiral **Pradeep Chauhan** retired in December 2013 after an extremely distinguished four-decade-long career in the Executive Branch of the Indian Navy, during which he held numerous command and staff appointments, including that of the aircraft carrier, INS *Viraat*. He has since been an active member of the strategic community.

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one or another strategic or operational facet while leaving other facets to be dealt with by some other navy. By corollary, it has no option but to pursue a ‘balanced’ set of operational and logistic capabilities that will enable it to remain relevant and significant across the entire spectrum of conflict.

In order to maximise its options for strategic or operational ‘manoeuvre’ (at the regional-theatre level) in responding to an attack by an adversarial nation-state, India is inevitably driven to acquire, possess and master ‘blue water’ naval capability. In times of peace and tension, this involves ‘dissuasion’, ‘deterrence’, the ‘shaping of the probable battle-space’ through ‘perception management’ and ‘presence’ missions, the maintenance of ‘Maritime Domain Awareness’ (MDA) through direct as well as cooperative surveillance, the gathering and collation of intelligence on a regional basis, and, the efficient discharge of the ‘diplomatic’, ‘constabulary’ and ‘benign’ roles of the navy. In times of active conflict, however, this implies the ability to routinely and efficiently mount and sustain naval operations-of-war at significant distances — of the order of several hundred nautical miles (nm) — from the Indian coast. Not only is ‘air power’ — or, given the contemporary technological context, ‘aerospace power’ — critical to sustain both ‘offensive’ and ‘defensive’ operations at these distances, but this air power must be available both ‘here’ and ‘now’. For the most part, modern, technology-derived, shore-based airborne platforms such as air-to-air refuellers (tanker aircraft) have overcome the ‘here’ component of this twin requirement for the sustenance of blue water combat operations. However, the ‘now’ component requires aerospace power that is an ‘embedded’ or ‘integral’ component of fleet capabilities at sea. This is why integral air power, as embodied by the combat component known as a ‘Carrier Battle Group’ (CBG) has long been (and remains) a central operational concept of the Indian Navy. Although the US Navy, reflecting its doctrinal emphasis on air strikes launched ‘from the

sea' against targets on the land, has changed the nomenclature to 'Carrier Strike Group' (CSG), the former seems more relevant to the Indian context. Whatever be the preferred terminology, the group consists of a synergistic and mutually supporting conglomerate of warships centred upon an aircraft carrier. The adjective 'synergistic' is particularly apt because the combat-capability of the group as a whole is almost always greater than the sum of its parts. Thus, while critically analysing the strengths and vulnerabilities of a CBG (or CSG), it is very important to bear in mind that it is the 'group' and not the aircraft carrier

alone that must remain the central point of reference. In combat terms, the CBG is like a mathematical integer that cannot be fractionalised. Yet, aircraft carriers — even by themselves — are so highly visible, so hugely symbolic, and, tend to attract so much attention, that many analysts end up developing sophisticated but nevertheless fallacious arguments relating to the real and perceived vulnerabilities of this single platform alone, without applying their very considerable analytical skills to the CBG/CSG as a unitary whole.

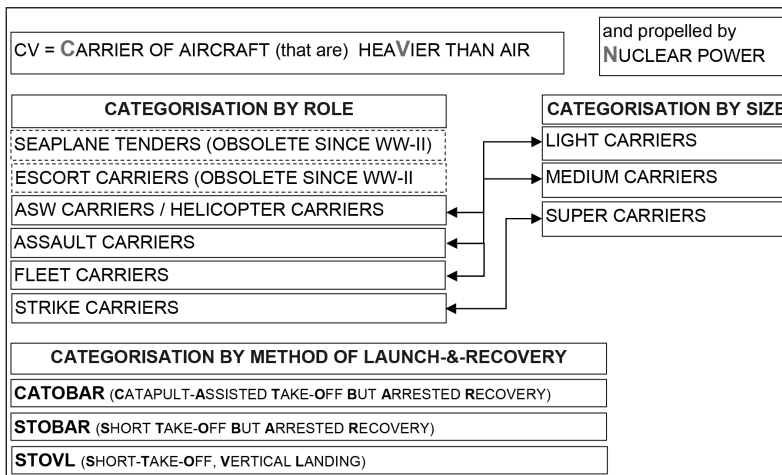
With the commissioning and recent active deployment of the *Vikramaditya* along with its air-group, and against the backdrop of the ongoing construction of the new *Vikrant*, there is a revival of the debate on the combat vulnerability of the aircraft carrier. Several Indian analysts worriedly point to the acquisition by potential adversaries of reconnaissance satellites, anti-ship ballistic-missiles, supersonic (and now 'hypersonic') long-range cruise missiles, nuclear-propelled attack-submarines (SSNs), very quiet diesel-electric submarines, and so on. These are serious apprehensions that neither can, nor should, evoke glib responses that are driven by empty bravado. The *Vikramaditya* is run by a highly trained crew whose number exceeds 1,500 — that is, the approximate strength of one-and-a-half infantry battalions of the Indian Army! Other than in a nuclear war, it would be inconceivable

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for the Indian Army to lose one-and-a-half battalions to enemy combat power in just a few minutes. However, this magnitude of human loss in so compressed a timeframe is exactly what could happen were one of the Indian Navy's contemporary aircraft carriers to be sunk as a result of enemy action. The effect upon residual fighting capability, as also upon resultant morale at the naval, armed forces, and national levels would be no less catastrophic. Hence, issues involving a careful 'vulnerability assessment' and an equally careful 'vulnerability mitigation' are serious matters that merit serious and informed discussion and debate.

Terminological exactitude is a critical feature of any such analysis. In other words, it is essential to understand that the term 'aircraft carrier' is itself a generic one. There are several types of aircraft carriers, which vary widely from one another in terms of their displacement tonnage, their physical dimensions, their purpose or roles, their means of propulsion, the number of aircraft they carry in peace-time as opposed to the number that can be carried in combat, the manner in which these aircraft are launched and recovered, the extent and depth of on-board logistics, and repair capacity and capability, and so on. An example of this variety may be seen from the following schematic, familiarity with which might reduce the usage of loose or *ad hoc* terminology.

Fig 1



It is a historical fact that the last aircraft carrier to be sunk in war-time was the Japanese aircraft carrier *Amagi*, in Kure harbour, in July 1945. Indeed, many proponents of the aircraft carrier — especially the Americans — make much of the fact that no US aircraft carrier has been sunk in combat since 1942. Yet, it is also true that during the sustained maritime combat of World War II, of the 66 fleet carriers and light fleet carriers that were used by the various protagonists, as many as 24 were sunk in combat against a variety of adversarial platforms — ships, submarines and naval aircraft.¹ If one were to include the smaller escort aircraft carriers (these were used for direct and indirect support operations in support of merchant convoys), the number of aircraft carriers sunk in enemy action would increase to 39. Since this article deals with defending the *Vikramaditya* in combat, these would appear to be sobering figures. That said, it is critical to remember that the vulnerability of an aircraft carrier that is part of a well-knit CBG / CSG is lower (by several orders of magnitude) than the vulnerability of an aircraft carrier operating pretty much by itself. Hence, the vulnerability or otherwise of aircraft carriers in World War II is certainly an indicative point of reference but hardly a definitive one.

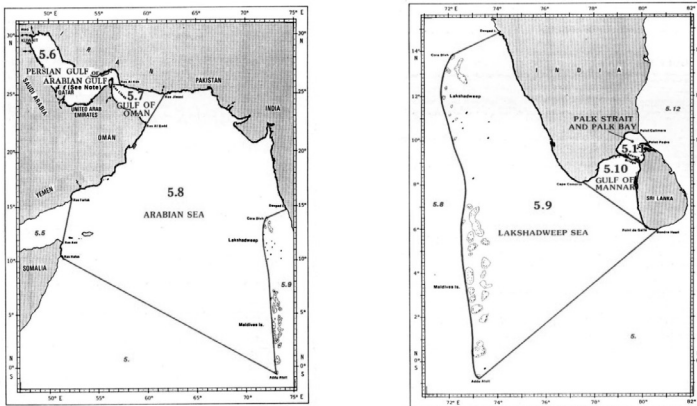
A typical combat-engagement cycle may be summarised as “**surveillance, detection, classification, identification, localisation, tracking, attack-criteria (i.e. evasion/engagement), and damage assessment**”. The vulnerability of the *Vikramaditya*-centred CBG in times of conflict needs to be analysed against this cycle. However, it is also important to avoid the simplistic trap of considering naval warfare as a game of ‘hide and seek’, where the ‘hidiers’ and ‘seekers’ are mutually exclusive entities with pre-defined roles. In truth, the hunter is also simultaneously the hunted and vice versa. This, along with the attendant fact that the hunter and the hunted may be operating in completely different mediums, each oblivious of the other, imposes limitations upon both protagonists.

Surveillance and Detection: Thus, the first problem for an enemy that seeks the destruction of an aircraft carrier of the size and type under discussion is one of combat-surveillance and resultant detection. The

1. <http://www.militaryphotos.net/forums/showthread.php?11486-fleet-carriers-sunk-in-world-war-2>.

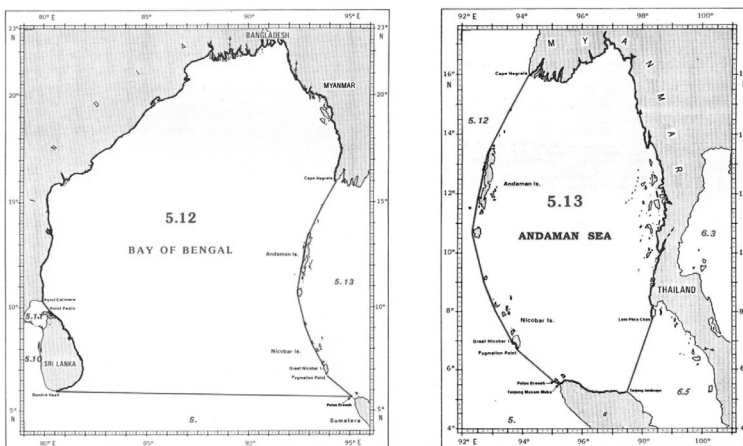
magnitude of this problem needs to be appreciated. Even if one were to consider solely what *we* call the 'Arabian Sea' (i.e., the sea area comprising the 'Arabian Sea' and the 'Laccadive Sea' as described in the Third Edition of IHO's Special Publication 23 *Limits of Oceans and Seas*, the area to be kept under surveillance is some 46,48,000 km². Similarly, the Bay of Bengal (inclusive of the Andaman Sea) covers an area of 27,72,000 km².

Fig 2



Source: IHO Special Publication 23, 3rd Edition. See at http://www.iho.int/iho_pubs/standard/S-23/S-23_Ed3_1953_EN.pdf

Fig 3



Source: IHO Special Publication 23, 3rd Edition. See at http://www.iho.int/iho_pubs/standard/S-23/S-23_Ed3_1953_EN.pdf

Persistent surveillance of these water bodies is well outside current capabilities of any form of shore-based radars, including 'over-the-horizon' ones. Surveillance by sea-based radars (aboard ships and submarines) is a formidable challenge. The average range of detection of a large surface ship or a group of surface ships by a shipborne radar is of the order of 30 nm (56 km), thereby yielding detection within an area (πr^2) of 9,852 km², which is 0.2 percent of the Arabian Sea alone (and 0.45 percent of the Bay of Bengal). In short, for the entire Arabian Sea to be kept under surveillance at any moment in time (t), against a CBG, would call for some 471 ships, each with optimally operating surface detection radar! Detection ranges achieved by submarines are significantly lower due to the low height of the radar antenna — apart from being an operationally unviable option. That leaves satellite-based oceanic surveillance and oceanic surveillance by airborne radars. Indeed, these are the options of choice.

However, since a CBG (such as the *Vikramaditya*-centred one) is quite comfortably able to cover a distance of some 900 km in a 24-hour period, real-time detection is needed. Insofar as satellite-based detection is concerned, this calls for ground stations whose 'footprint' would enable real-time downloads of imagery (electro-optical, radar, infra-red, or whatever) of medium/large objects detected at sea. An adversary seeking to make the Indian Ocean 'transparent', must, therefore, possess an adequate number of adequately located ground stations. As the name implies, 'ground stations' require ground. Such an adversary must, therefore, possess adequate 'territory' upon which 'ground stations' can be positioned — even if such 'ground stations' are contemporary, small, and portable ones, such as the US/NATO 'RAPIDS' (Resource and Programme Information Development System). All this is well beyond the current or near-term capabilities of any of India's likely adversaries. Turning finally to air-borne detection, this is typically achieved through shore-based 'Long Range Maritime Patrol' (LRMP) aircraft such as the P3C Orion, the Boeing P8I, etc. Pakistan has some capability within the Arabian Sea, and China has some marginal capability at the eastern fringes of the Bay of Bengal. These capabilities are further degraded by the deployment pattern likely to be adopted by the carrier-operating navy. Thus,

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the CBG, like any major weapon system, is likely to be deployed in accordance with the principles of 'manoeuvre warfare' and not those of 'attrition warfare'. In other words, the CBG would not normally be deployed where the enemy's tri-Service strength is the greatest — in this case, within the unrefuelled combat radius of an intact enemy's shore-based Fighter Ground Attack (FGA) aircraft. Indeed, the 'deployment-pattern' of the CBG is an overarching factor that is germane right across the aforementioned 'combat-engagement cycle' [surveillance, detection, classification, identification, localisation, tracking, attack-criteria (i.e. evasion/engagement), and damage assessment].

CBGs routinely put to sea well and are judiciously positioned firmly within 'blue waters' well before a crisis deteriorates into a conflict. It is instructive to note that in the six years of World War II, only one aircraft carrier (the Imperial Japanese ship *Amagi*) was ever sunk while in port. Thus, "...*the most basic protection the carrier has against being detected... is distance. The areas in which carriers typically operate are so vast that adversaries would be hard-pressed to find them even in the absence of active countermeasures by the battle group.*"²

Classification: Assuming that detection has, indeed, been achieved, the problem of classification must now be wrestled with. In terms of traffic density, the Indian Ocean is the busiest of all the world's oceans, with over 120,000 ships transiting the International Shipping Lanes (ISLs) of this ocean every year. On our western seaboard, the Strait of Bab-el-Mandeb (connecting the Gulf of Aden and the Red Sea) accounts for some 22,000 ships annually, while the Strait of Malacca on the country's eastern seaboard accounts for a staggering 70,000 ships every year. Amongst these numbers are some large, fast ships — several of which, but not all, are comparable in size and

2. Dr Loren Thompson, *Aircraft Carrier (In)Vulnerability* (Naval Strike Forum, Lexington Institute, August 2001).

speed to an aircraft carrier. Examples include Ultra Large Crude Carriers (ULCCs) such as those operated by the shipping company 'TI' (Tankers International), Very Large Crude Carriers (VLCCs), Maersk E class container carriers, a number of cruise-ferries and cruise-liners, several 'car-and-truck' carriers, and, a large variety of 'Roll-on-Roll-off' [Ro-Ro] ships. Moreover, heavy-lift warships as also those designed for amphibious operations (such as the French Navy's Mistral class) and a number of classes of LPDs (Landing Platform Docks) can also be quite easily mistaken for aircraft carriers. In short, the process of correct classification is by no means as simple as it might initially appear. The situation is exacerbated by the fact that in a modern CBG such as that centred upon the *Vikramaditya*, the constituent ships of the group could be fairly dispersed. Yet another problem is that, as an air-borne hunter, the LRMP aircraft is acutely aware of its own vulnerability to carrier-based attrition. As such, every time the LRMP aircraft makes a detection — of what might eventually turn out to be one of these carrier-like merchantmen or a 'non-carrier' warship — it has no choice but to assume that every such contact is, indeed, the enemy aircraft carrier. Consequently, it is forced to **immediately** adopt a series of gambit tactics designed to promote its own survival against interception by carrier-based aircraft, which, however, seriously degrade the 'probability-of-detection' as a mathematical function of the 'scouting operation' being undertaken by it. This, as any experienced LRMP pilot crew would testify, is a very serious limitation and plays havoc with the entire process of executing a planned 'search'.

Identification: Even after a contact that has been detected is classified as an aircraft carrier, problems of 'identification' persist. This is because extra-regional aircraft carriers (especially those of the US and French Navies) are deployed in both the Arabian Sea and the Bay of Bengal. It would be catastrophic if one of these were to be engaged by a trigger-happy LRMP aircraft searching

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for the Indian Navy's *Vikramaditya* CBG. Although it is possible for an LRMP aircraft to effect a 'search mission' while using only passive means such as ESM (Electronic Support Measures), acoustic devices (sonobuoys, for example) and electro-optics, such a 'search' would yield a low 'probability-of-detection'. As such, more often than not, a 'search' mission seeking to confirm the presence or absence of a CBG in the area being searched, would be undertaken at least partially by active means (radar). The constituent ships of the CBG, being far more capacious than an LRMP aircraft, carry a far greater range and variety of Electronic Warfare (EW) suites than an aircraft. As such, an LRMP aircraft transmitting on its radar is very vulnerable — first, to detection by any or all of the excellently data-linked constituents of the CBG and, thereafter, to interception by carrier-based aircraft data linked to highly-qualified aircraft-direction teams, equipped with state-of-the-art Beyond Visual Range (BVR) missiles, well before it can reach its own 'Weapon-Release-Line' (WRL). Although intercept-geometry and calculations lie outside the scope of a generic article such as this, it is worth mentioning that even the venerable *Viraat*, with its severely limited number of 'Sea Harrier FRS-51' interceptors, has invariably succeeded in intercepting LRMP aircraft (colloquially known as 'snoopers') in advanced, freewheeling tactical and operational exercises such as the various editions of TROPEX (Theatre-level Operational-Readiness Exercise), involving both fleets of the Indian Navy as well as aircraft from the Fleet Air Arm and the Indian Air Force. The *Vikramaditya*, with its vastly superior numbers and capability of aircraft (the MiG 29-K), will certainly have a very much easier time of it.

Tracking and Attack Criteria: As Dr Lauren Thompson of the Lexington Institute puts it,

Simply finding an aircraft carrier at a particular moment in time won't satisfy an attacker's targeting requirements. Once the carrier is spotted, the attacker must make a series of command decisions leading to the launch of weapons, and then the weapons must transit the space between their point of origin and the carrier. While all this is occurring, the carrier is moving. During a 30-minute

period, it may have manoeuvred anywhere within a circle measuring 700 square miles. Over 90 minutes, the area grows to 6,000 square miles...."³

Thus, the probability of destruction of even a missile-equipped LRMP aircraft by carrier-based interception is increased manifold once the process of 'tracking', as a precursor to an attack on the CBG, gets underway. It must never be forgotten that LRMP aircraft holdings in the inventories of our potential adversaries are severely limited. Consequently, every loss of an LRMP aircraft imposes a very severe penalty on war-fighting capability. This is because it is this very LRMP aircraft that is required to 'trigger' the launch of shore-based aircraft of the enemy air force that have been earmarked for 'Maritime Air Operations' (MAO). Without this trigger, the MAO commander does not know when exactly he should launch his Fighter Ground Attack (FGA) aircraft to attack the carrier. This is a critical input to him because in attacking the CBG at long distances from the coast, his aircraft will need to operate with a number of limitations. They will consume a significant amount of fuel in the transit to and from their weapon-release line. As a result, their time-on-target will be limited. If a tanker aircraft is deployed near the seaward limit of the autonomous radius-of-action of the FGA, the refueller itself will become a strategically important (and, hence, hugely attractive) target for the carrier-borne aircraft and, as a further consequence, additional resources will have to be committed by way of air defence fighter aircraft so as to ensure its safety. The enemy's shore-based strike aircraft would, perforce, be operating well outside the cover of their land-based radars and, hence, bereft of direction by their fighter controllers. On the other hand, the *Vikramaditya's* Combat Air Patrol (CAP) comprising MiG-29K aircraft in the interceptor role would be operating in the air defence mode, would have relatively more fuel and, hence, greater combat time (time-on-task). They would be operating within the radar cover of the CBG as a whole and, with their contemporary armament of BVR air-to-air missiles, would have the advantage of being directed by ship-borne fighter-controllers (known in the Indian Navy as 'direction officers'). It is clear that the MAO commander ashore cannot afford to fritter away

3. Ibid.

the fuel-endurance of his aircraft by launching them too early and, yet, he certainly cannot afford to launch them too late. Consequently, the timeliness and accuracy of the 'launch-trigger' provided to him by his LRMP aircraft is a *sine qua non* for his operations. Similarly, where conventionally powered submarines are concerned, they need to be redeployed in order to intercept the highly mobile and comparatively speedy CBG. This redeployment is achieved through what is known as 'MR-Sub Cooperation' ('MR' = Maritime Reconnaissance aircraft, which is just another term for an LRMP aircraft). The aircraft typically remotely triggers a shore-based Very Low Frequency (VLF) station and provides the information required for one or more submerged diesel-electric submarines to undertake 'Contact-Motion Analysis' (CMA) and accordingly redeploy for an interception. Without the LRMP aircraft, the dreadfully slow speed of conventionally powered submarines makes this whole business of redeployment a non-starter. Hence, as the *Vikramaditya*-centred CBG attains sequential or simultaneous destruction of the enemy's LRMP aircraft, it incrementally cripples the ability of the enemy to sensibly deploy either shore-based FGA or submarines against it. This will allow the CBG to close the enemy coast, should that be its operational intent.

This brings us to an important question of whether the requirement to close the enemy coast to attack targets ashore (military power projection) is truly what the *Vikramaditya*-centred CBG is meant to do. The answer lies in once again taking a look at the schematic categorisation of aircraft carriers shown in **Fig 1**. With a displacement of 45,400 tonnes, the *Vikramaditya*, which is conventionally (steam) propelled and carries some 36 aircraft (primarily the MiG 29-K), is certainly a 'fleet aircraft carrier'. However, she is not a 'strike carrier' (or 'super carrier') such as the nuclear-propelled aircraft carriers of the US Navy's Nimitz class, each of which displaces approximately 100,000 tonnes and carries about 90 fixed and rotary-wing aircraft, many of which have been designed primarily for air strikes on targets ashore. While the *Vikramaditya* does have reasonable shore strike capability, the number of aircraft she carries does not permit this to be her primary role. Instead, her principal purpose is that of a 'fleet carrier' — to form an integral part of a mutually-supportive and synergistic CBG

that can deliver telling punishment to enemy shipping (men o' war and merchantmen alike), submarines and aircraft, at ranges well beyond the launch-ranges of enemy weapons, including missiles. This is an important distinction because it implies that the deployment pattern of the *Vikramaditya* would be predicated towards maximising her blue water mobility and attendant manoeuvrability. By corollary, it sharply reduces and limits the vulnerability of the CBG to shore-based air attacks by an opposing air force. In support of such a pattern of deployment, the well-respected Dean of Naval Warfare Studies of the US Naval War College, Professor Robert C. Rubel, cautions war-planners, "*Do not become decisively engaged with land forces unless decisively superior*". He goes on to emphasise that "*....the requirement to feed aircraft continuously into a land fight essentially robs the aircraft carrier of its maneuverability...*" and reminds them that a fundamental principle governing fleet deployment is, "*Do not tie a mobile fleet to a piece of ground.*"⁴

Defending the *Vikramaditya*-centred CBG against sub-surface threats is a more complex matter than defending it against aircraft threats. The ubiquitous 'negative-gradient' acoustic profile of the Arabian Sea makes early detection of submarines difficult, particularly if the CBG were to rely solely upon the hull-mounted sonars fitted aboard its constituent surface combatants. On the other hand, the ensuing vulnerability is mitigated by the fact that a conventionally-propelled submarine can be effectively redeployed for a mid-ocean interception of the CBG only through some form of MR-sub cooperation (which has been already been dealt with in this article). Quite apart from its 'blue water' positioning, the high speed-of-advance of the CBG is, in itself, an effective submarine-evasion measure, especially when it is overlaid by tactical manoeuvring involving course variations. Traditional deployments of conventional submarines concentrate upon 'choke-points' — whether created 'geographically' or 'operationally'. To be even marginally effective, mid-ocean deployments by conventionally propelled submarines need very accurate and timely tactical intelligence (via MR-sub cooperation) with regard to the 'Mean Line of Advance' (MLA) of the CBG. The difficulties

4. Professor Robert C Rubel, "The Future of Aircraft Carriers", *Naval War College Review*, vol. 64, no. 4, Autumn 2011.

On the one hand, SSNs are significantly noisier than contemporary diesel-electric submarines. On the other, their endurance limits are dictated by crew fatigue and not by battery life.

involved have already been touched upon earlier in this article.

However, once a nuclear-propelled attack submarine (what NATO refers to as an 'SSN') is introduced, the threat-equation changes sharply. On the one hand, SSNs are significantly noisier than contemporary diesel-electric submarines. On the other, their endurance limits are dictated by crew fatigue and not by battery life. As such, they have no 'indiscreet' periods dictated by the need to recharge batteries. Of course, this is also true (albeit

to a limited extent) of diesel-electric submarines that are equipped with one or another form of 'Air-Independent Propulsion' (AIP). For all that, where the SSN really scores over the AIP-equipped diesel-electric boat (submarines are traditionally referred to as 'boats') is in its high underwater speed. This, coupled with the fact that SSNs routinely carry a combination of torpedoes (both 'anti-ship' and 'anti-submarine') and anti-surface missiles, means that there are no 'Limiting Lines of Approach' (LLAs) for an SSN and the CBG faces an all-round threat, rather than solely one from the van as is the case with the threat posed by conventionally-propelled boats. Thus, on the one hand, the ability of the CBG to use high transit speeds as an effective submarine-evasion tactic is nullified. Unable to 'evade' the threat, the CBG is forced to address it through the adoption of anti-submarine attack methods. On the other hand, the threat has metamorphosed into an all-round one, involving both torpedoes and sub-surface-launched missiles. Of course, the submarine must still be able to obtain an accurate fire-control solution through Contact Motion Analysis (CMA) and reach its launch position without being detected and, hence, prosecuted. As in all forms of Anti-Submarine Warfare (ASW), earliest detection is vital. There certainly are technical means available to the CBG to achieve long-range detection. These include Variable-Depth Sonars (VDS) aboard the surface combatants constituting the CBG, as also 'towed sonar arrays' streamed by ships equipped with them. In both cases, however, there is a penalty to be paid in terms of speed and manoeuvrability, thereby increasing vulnerability. Consequently, tactical

means have to be superimposed upon the technical ones. Indeed, developing, testing, and validating optimal tactical deployments of VDS-fitted and towed-array-fitted ships all form the ‘bread-and-butter’ of specialised naval organisations such as the Indian Naval Tactical Evaluation Group (INTEG) and the tactical war-gaming simulators in the navy’s various tactical trainers. These tactical-technical combinations are obviously highly classified and can receive only the most perfunctory mention here. Yet, there is no gainsaying the fact that howsoever efficient, ASW measures taken by surface-ships against an SSN threat are seldom going to be adequate. Airborne ASW, on the other hand, is much more promising. In the case of the *Vikramaditya*-centred CBG, this involves

an extensive and intensive deployment of rotary-wing ASW aircraft such as the refurbished Sea King Mk 42B and the Kamov-28, as also ‘coordinated ASW operations’ by shore-based long range ASW-capable aircraft such as the refurbished IL-38SD, the TU-142M, and, most important of all, the P8I. This is where the limited size of the *Vikramaditya* poses the most constraints, since it imposes limits upon the number of ASW-capable helicopters that can be embarked. This is also where the inadequacy in numbers of contemporary ‘Medium-Range Multi-Role’ (MRMR) helicopters is most acutely felt, since almost every frontline surface combatant of the *Vikramaditya*-centred CBG is capable of embarking and deploying two specialised medium/heavy ASW helicopters. Of course, this is also precisely where our bureaucratic inefficiencies — and the yawning knowledge-gaps that are ubiquitous within the Ministry of Defence — have their most severe operational impact. Logistic efficiencies (or lack of them) directly impact aircraft ‘serviceability rates’ and the logistic train at sea to support CBG-based naval combat operations takes well over two decades

Logistic efficiencies (or lack of them) directly impact aircraft ‘serviceability rates’ and the logistic train at sea to support CBG-based naval combat operations takes well over two decades to master. The experience of the US Navy, the British Royal Navy, the French Navy and the Indian Navy is all uniform in this regard and those analysing Chinese capabilities would do well to bear this in mind.

to master. The experience of the US Navy, the British Royal Navy, the French Navy and the Indian Navy is all uniform in this regard and those analysing Chinese capabilities would do well to bear this in mind. The deployment of an SSN (the *Chakra*, for the immediate present) as an intrinsic element within the *Vikramaditya*-centred CBG is an option that has been extensively validated by the US Navy and, amongst several other advantages, holds out much promise in dealing with the enemy SSN threat. This deployment of one's own SSN in an anti-submarine (hunter-killer) role against another SSN (or an SSBN) has long been common in both the US and the erstwhile Soviet Navy. It would be reasonable to expect the *Vikramaditya*-centred CBG to be similarly integrated with the Akula-class *Chakra* and follow-on indigenous SSNs, thereby minimising its vulnerability to an SSN attack.

Irrespective of the launch platform, the threat of the anti-ship cruise missile has been greatly diminished by current fleet capability. Indeed, there is little doubt that the uniformly excellent performance of the Barak anti-missile defence system has contributed enormously to the Indian Navy's renewed confidence in the capability and survivability of the *Vikramaditya*-centred CBG. This robust sense of self-belief has changed the fundamental pattern of deployment of the CBG from one where the principal aim was to avoid detection by missile-equipped LRMP aircraft of potential enemies. Today, there is a palpable sense of confidence that every ship of the CBG (including the aircraft carrier itself) has the proven ability to 'take on' a first-launch of an incoming anti-ship sea-skimming missile by the enemy and to thereafter 'take out' the launch-platform (whether surface, sub-surface or air-borne). This sense of self-assurance and the resultant rise in fleet morale is no small thing and has contributed significantly to a resurgence of bold and imaginative operational planning. As the new and greatly improved 'Barak ER' is inducted into the navy and retrofitted aboard its major surface combatants, this buoyancy is all set to increase.

That said, there is an increasingly shrill debate over the issue of what has come to be known as the 'anti-ship ballistic missile'. The Chinese-made 'Dong Feng 21-D' (DF-21D [CSS-5 Mod-4]) is widely touted by some as being a 'carrier-killer'. However, the actual state of development of this capability is far less clear than these Cassandran prophecies of doom might have us

believe. Some analysts, like the defence journalist J Michael Cole are on record in the respected current affairs magazine *The Diplomat* to say that the entire issue may just be part of strategic deception!⁵ Cole emphasises that "... ever since the People's Liberation Army's then chief of general staff General Chen Bingde gave the first official confirmation in July 2011 that the PLA was developing the DF-21D ASBM, specifics about the missile have been few and far between, with officials refraining from discussing the program in detail. For the most part, the hype has been the result of reports in Chinese media, which were subsequently picked up by Western outlets and analysts". Likewise, on April 10, 2014, the International Relations and Security Network (ISN) — the respected "open access information services for both professionals and students who focus on international relations (IR) and security studies" — published an interesting piece by the veteran Washington correspondent and analyst Cdr Otto Kreisher, USNR (Retd), in which he points out,

...For a ballistic missile to hit a target at 1,000 miles or more, it has to know where that target is located, with a high degree of accuracy. That's complicated when the target — such as a carrier strike group — is moving at up to 34 miles per hour. For the weapon to be effective, such a geographic fix must be updated constantly. To locate a carrier initially, China could use its over-the-horizon (OTH) radars, which can search out more than a thousand miles. But the geographic accuracy of OTH radars at long range can be off by scores of miles. China is known to have at least three reconnaissance satellites in orbit over the Pacific — with SAR or optical sensors — that could be used to more accurately fix a carrier's position. Long-range Chinese reconnaissance aircraft or attack submarines could also pinpoint a carrier, if they were operating in the right area. But in a time of conflict, a patrol airplane or submarine attempting to get close to a carrier — shielded by its E-2C early warning airplanes, F/A-18 interceptors, and an anti-submarine screen of subs and destroyers — might not succeed. If the Chinese could get an accurate fix on the carrier, the data would have to be processed, and the

5. Michael J Cole, "The Diplomat", April 22, 2013: <http://thediplomat.com/2013/04/the-df-21d-or-carrier-killer-an-instrument-of-deception/>

missile prepared, programmed, and launched — a complicated command and control procedure that has to be routinely tested and practised to ensure it works. The missile, its homing sensors, and guidance system would also have to function properly to reach and hit the moving carrier.

Those integrated steps — to find, fix, target, and hit — are crucial links in what the military calls the “kill chain” of a successful weapon system. The complexity of that kill chain led Jan van Tol, a retired Navy captain and senior fellow on strategic planning at the Center for Strategic and Budgetary Assessment, to wonder.... in an interview, “I have seen no stories of any kind that China has successfully tested the system, first, against any mobile targets; ... secondly, mobile targets at sea; and thirdly, mobile targets at sea amid clutter,” meaning the various support ships in a carrier battle group. Such a demonstration “is what’s really important to show that the weapon had actually reached operational capability,” and these are “very difficult things.”⁶

It is certainly true that if the Chinese really do have the capability they have claimed, the threat is one that needs to be prepared for assiduously in terms of anti-ballistic missile systems — whether the Aegis system or some indigenous one. Since this article leans towards the immediate present, however, and since China certainly has no ability to target a carrier operating within the Indian Ocean, this threat is not an immediate one. Nor is there any immediate answer to such a threat. There is, however, a ‘window of time’ available and we would do well to utilise it optimally.

The vulnerability of aircraft carriers has been, and will continue to be, debated for a long time yet. As always, the gallop of technology will favour first one side and then the other. At the present juncture, however, within the contemporary context of maritime conflict involving India and given the strengths and capabilities of the *Vikramaditya*-centred CBG, the foregoing arguments show that although defending the *Vikramaditya*-centred CBG in times of conflict is a complex exercise involving technical and tactical acumen of a high order, it is, nevertheless, very much ‘doable’.

6. Otto Kreisher, “China’s Carrier Killer: Threat and Theatrics”, April 10, 2014, <http://www.isn.ethz.ch/Digital-Library/Articles/Detail/?lng=en&id=177869>

A NATIONAL SECURITY STRATEGY FOR INDIA

BHARTENDU KUMAR SINGH

INTRODUCTION

Most great powers have a public document on the National Security Strategy (NSS), meant to navigate the country in anarchical international relations and secure its survival¹. Invariably, the NSS seeks a conducive strategic environment, identifies the strategic goals and delineates the methodologies for a national response along with resource management. The US, UK, France and Russia come with periodic updates of their NSS². China does not have a declared national security strategy but its Defence White Papers published every two years are alternate documents on national security. India, on the other hand, seems to be an odd member in the club. While the country stands tall on many indices of the power matrix in international relations and is increasingly being recognised as a great power, it does not have an official NSS! This despite the fact that the country had attempted the revamp of defence management on several occasions (Kargil Review

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1. For a preliminary introduction, see Alan G Stoleberg, *How Nation States Craft National Security Strategy Documents* (Strategic Studies Institute, US Army War College, 2012); www.StrategicStudiesInstitute.army.mil
2. The US National Security Strategy was last updated in May 2010; this is besides the Quadrennial Defence Review (January 2010). Both documents are periodically reviewed. In the UK, the David Cameron led coalition government came out with an NSS in October 2010. The French Defence White Paper, 2013, is an updated version of the one published in 2008. Russia came out with an NSS in 2009.

Nehru, the so-called idealist, was a realist and grabbed the opportunity for police action in Hyderabad as well as Goa and got them merged with India. His non-alignment policy was indeed a realist defence strategy for India under the idealist garb.

Committee, 1999; Group of Ministers, 2000; and Naresh Chandra Committee, 2011). There were ample expectations that the Naresh Chandra Committee would take up the issue of an NSS and come out with a draft paper for consideration by the Government of India. The committee, however, failed to live up to the expectations. This paper would, therefore, emphasise on the necessity of an NSS within the contours of national security reforms. It intends to discuss the consequences of the absence of an NSS, the rationale for it and also discuss the problem

areas and the precautions to be taken in drafting the NSS. The paper is built around the hypothesis that while an NSS is the *sine-qua-non* for a rising India, it should be not be merely a military document; rather, it should be perceived and defined in a broader context that will sub-serve India's short-term and long-term national security interests.

NSS: THE MISSING LINK IN SECURITY REFORMS

While a documented NSS has eluded India so far, the country did have a conception of national security since its republican inauguration. Prime Minister Nehru had indeed a grand strategy of putting India as a vital link between the West and the East. Nehru, the so-called idealist, was a realist and grabbed the opportunity for police action in Hyderabad as well as Goa and got them merged with India. His non-alignment policy was indeed a realist defence strategy for India under the idealist garb.³ Indira Gandhi was more assertive. She not only waged and won a war against Pakistan but also diluted its offensive capability for future warfare by carving out Bangladesh. Subsequently, she formulated something

3. K Subrahmanyam, "Far From Being An Ideology, Non-Alignment was a Strategy Devised by Nehru", *The Indian Express* (New Delhi), February 3, 2011. For a discussion on Nehru as a realist, see Srinath Raghavan, *War and Peace in Modern India* (London: Palgrave Macmillan, 2010).

known as the “Indira doctrine” meant to ward off extra-regional influence in South Asia. Narsimha Rao as prime minister gave an economic and strategic dimension to India’s security and foreign policy through the “Look East” policy. Atal Behari Vajpayee brought the country out of the nuclear morass and shaped a new identity for it in international relations by forging ‘new relationships’ with the US and other great powers. The United Progressive Alliance (UPA) government has continued the tradition of pushing India’s economic, political and military profile in international relations and has indeed been successful in cultivating good relations with all the great powers.

Atal Behari Vajpayee brought the country out of the nuclear morass and shaped a new identity for it in international relations by forging ‘new relationships’ with the US and other great powers.

Since 1990, successive Union governments also initiated a series of defence reforms based on recommendations made by different committees. In 1990, the Arun Singh Committee on Defence Expenditure (CDE) had made recommendations touching almost every aspect of India’s defence, though its report was never made public⁴. In 1999, the government formed a Kargil Review Committee (KRC) under noted defence expert (the late) K Subrahmanyam to recommend measures for preventing a Kargil-like armed intrusion. Pursuant to the recommendations of the KRC in February 2000, the government announced the setting up of a Group of Ministers (GoM) in April 2000 to review the national security system in its entirety. Consisting of the home, external affairs, defence and finance ministers, the GoM decided to constitute a task force on defence management, to be headed by none other than Arun Singh. Many of the institutional and policy reforms in the field of defence management and national security apparatus that were ushered in, in the subsequent period, owed their existence to the recommendations of this task force that became part of the GoM report on

4. “Arun Singh Committee on Defence Expenditure: The Report Needs to be Made Public”, <http://pragmatic.nationalinterest.in/2009/07/31/arun-singh-committee-on-defence-expenditure/> Accessed on October 8, 2011.

“reforming the national security system” in 2001⁵. Surprisingly, the issue of an NSS did not form part of these recommendations⁶.

There are several reasons why no NSS was ever identified and officially delineated in any of the reform proposals. First, all the reform committees in independent India had specific and particular mandates and were never asked to work out a draft NSS. Second, the political leadership largely shied away from defence matters as these were considered ‘too sensitive’ though the same leadership was quite eloquent and could wax on foreign policy matters. Little did they realise that the two are rather intertwined. Hitherto, the armed forces have had only a peripheral role in foreign and defence policy making. Third, the lack of expertise on defence matters has also prohibited the political leadership from enunciating an NSS. Surprisingly, India is yet to produce political leadership with a defence background. Very few defence officers have managed to carve a political career for themselves⁷; most of them have only managed some gubernatorial postings or research assignments after retirement. Fourth, institutional support and policy feedback through research institutions and universities were too weak during much of the 20th century and they never focussed on the desirability of a comprehensive NSS for India. Think-tanks on defence and security matters were few during much of the 20th century and it is only now that they are expanding in number. Fifth, while the country has the Cabinet Committee on Security and the National Security Council Secretariat (NSCS) as the apex institutional arrangements on security matters, there is little to suggest that any input was ever fed to them about the desirability of a public document on an NSS, either by the National Security Advisory Board (NSAB) or strategic experts in the country.

5. “Group of Ministers’ Report on ‘Reforming the National Security System’”, PIB Releases, May 23, 2011, <http://pib.nic.in/archieve/lreleng/lyr2001/rmay2001/23052001/r23052001110.html>

6. Apparently, the task force had prepared a draft NSS and forwarded the same to the then NSA. Since nothing has been made public about it, it is presumed that no NSS was ever attempted.

7. Jaswant Singh and Maj Gen B C Khanduri (Retd) are the only outstanding political leaders having a military background. Jaswant Singh also wrote a pioneering book on India’s defence, *Defending India* (New Delhi: McMillan India, 1998).

CONSEQUENCES OF NOT HAVING AN NSS

India has paid the price for not enunciating an official NSS in many ways. First, there have been organisational differences as far as the interpretation of national security is concerned. The relative importance of a particular national security issue becomes the “victim of organisational thinking” that differs from one organisation to another in the government. Instead of “effective decisions”, we have “decisional conflicts” arising from a clash of interests or differential perceptions amongst competing departments. A typical example was India’s decision to send the Indian Peace-Keeping Force (IPKF) to Sri Lanka in 1987 on which there were differences of opinion amongst various stakeholders⁸. The bitter experiences induced a sense of ‘reluctance’ into the Indian foreign policy subsequently that only encouraged the smaller countries in South Asia to play assertive balance of power games. A concurrent example would be the continued impasse amongst various stakeholders over the continuation of the Armed Forces Special Powers Act (AFSPA) in the state of Jammu and Kashmir (J&K). These problems arise because major stakeholders in national security such as the External Affairs, Defence and Home Ministries not only have vastly different objectives and culture, but are staffed by different cadre systems. State bureaucracies have their own cadres, competencies and culture that influence the positions that India takes with respect to domestic security issues and issues concerning any neighbouring country⁹.

Second, there has also been a pervasive lack of clarity amongst the mainstream political parties on dealing with developments in the neighbourhood though they claim to have ‘consensus’ on foreign policy issues. Some regional political outfits go a step further and often take a stand on a national security issue that is diametrically opposed to India’s national interests. Many a times, this is a result of ignorance as these political outfits are not properly educated about vital national interests. In many cases,

8. See, P R Chari, “The IPKF Experience in Sri Lanka”, ACDIS Occasional Paper (February 1994), https://www.ideals.illinois.edu/bitstream/handle/2142/55/Chari_IPKF.pdf?sequence=1

9. Nitin Pai, “The Paradox of Proximity: India’s Approach to Fragility in the Neighbourhood”, Center on International Cooperation (April 2011), http://www.cic.nyu.edu/mgo/docs/nitin_pai_paradox.pdf. Accessed on November 7, 2011.

While Pakistan has an open alliance with China that often works against India, other smaller countries (with the exception of Bhutan) are also reaching out to China for a broader political, economic and military relationship. The end objective for all these countries seems to be balancing a rising India by building upon their apprehensions of *pax Indica* and pulling in an adversary like China.

these pulls and pressures have prevented India from taking any proactive actions or initiatives with regard to political developments in its neighbourhood. Thus, in Nepal, India has been in a helpless situation when Indian political parties have not been able to adopt a common approach. As a result, some Nepalese political parties have used the 'anti-India' stand to support a diplomatic shift towards China. In Sri Lanka, India has found itself in a similar helplessness where the Rajapaksa regime has resorted to flagrant violation of the ethnic rights of Tamil minorities in the post-Liberation Tigers of Tamil Eelam (LTTE) period and established strategic linkages with

China. In Myanmar, India has been a mute witness to China's strategic consolidation. At the end of the day, while India is increasingly being recognised as a rising power elsewhere, it has not been able to establish its primacy in its own backyard and remains trapped in the subcontinental politics.

Third, there are lingering doubts amongst some of India's own South Asian neighbours about the "consequences of a rising India"¹⁰. Though the 'basket of doubts' is not as big compared to that of China that has been challenged with a 'China threat' theory in international relations for the last two decades, it does impinge on India's quest for a benign rising great power image. While Pakistan has an open alliance with China that often works against India, other smaller countries (with the exception of Bhutan) are also reaching out to China for a broader political, economic and military

10. Teresita C Schaffer, "India Next Door, China Over the Horizon", in *Strategic Asia 2011-12: Asia Responds to Its Rising Powers – China and India*, available on www.nbr.org. Even China is a bit unsure about a rising India as inferred by M Taylor Fravel in his chapter "China's Response to a Rising India", available in the same volume.

relationship. The end objective for all these countries seems to be balancing a rising India by building upon their apprehensions of *pax Indica* and pulling in an adversary like China. Some of these relationships (Sino-Pak, Sino-Nepal and Sino-Myanmar) are threatening to be a drag on India's attempts to get out of regional politics. Further, the South Asian countries are also using the Southeast Asian Association for Regional Cooperation (SAARC) to balance India by hobnobbing with observer countries, a development for which India does not have any strategic response so far.

What complicates the situation is the treatment of defence as a non-plan expenditure due to which it cannot be brought within the purview of the Planning Commission.

Fourth, effective guidance on national security and defence policy is fundamental to the defence planning process. However, the absence of an NSS leads to ambiguities in political direction regarding politico-military objectives, which is the very basis of sound defence planning. It also means that there is inadequate coordination of defence plans and economic development apart from the fact that science and technology policies for defence, general industrialisation and other developmental programmes are not coordinated properly to achieve security goals and objectives.¹¹ What complicates the situation is the treatment of defence as a non-plan expenditure due to which it cannot be brought within the purview of the Planning Commission. Thus, when the 12th Five-Year Plan was approved by the National Development Council, the defence sector missed out being discussed and debated at the nation's highest platform simply because it does not come within the subject purview of the Planning Commission. A side effect is that defence five-year plans are never approved in time, thus, jeopardising balanced and timely resource allocation to the defence plans.

Fifth, the absence of an NSS has been felt in one more area: defence production. Due to lack of policy guidelines, the country has not invested

11. Gen V P Malik (Retd) and Brig Gurmeet Kanwal (Retd), "Defence Planning in India", http://www.observerindia.com/cms/export/orfonline/modules/policybrief/attachments/py050120_1162534133844.pdf. Accessed on November 5, 2012.

prudently in a domestic Military Industrial Complex (MIC) and the armed forces have to depend upon foreign suppliers for as much as 70 percent of their weapons requirements. While India may have emerged as the largest weapons importer in 2011, this also means that a substantial amount of foreign exchange reserves goes into funding the military industry of other countries and makes a complete mockery of its own great power claims, with the country still dependent on other countries for its own security! Despite substantial funding (6 percent of the defence budget), India's defence Research and Development (R&D) establishment is not even able to produce an engine for its indigenous fighter jet programme and reinvents technology already available off the shelf in the global market. Similarly, while Hindustan Aeronautics Limited (HAL) has made some name for itself, other defence Public Sector Units (PSUs) and the chain of 39 Ordnance Factories (OFs) are laggards in meeting the expectations of the defence forces.

Sixth, in the absence of an official NSS, national security is often perceived as synonymous with foreign policy and defence preparedness against external challenges. Requisite focus is not given to the domestic components of national security, particularly the developmental aspects. While terrorism and Maoism have emerged as consensus components of any debate on national security¹², the same focus is not received for agriculture, industry, climate change or environmental challenge as vital issues jeopardising national security¹³. To give one example, India still figures 67th in the Global Hunger Index among 81 countries, with the worst figures. Even countries like Rwanda figure much higher than India when it comes to basic food security for its citizens¹⁴. More than one-third of the Indian population lives below the poverty line; the figures go much higher if World Bank figures are considered. Similarly, though the Group of

12. According to Shivshankar Menon, NSA, India spends less than one-third of its defence budget on internal security. See, Shivshankar Menon, "India's National Security: Challenges and Issues", *Air Power Journal*, vol. 7, no. 2, Summer 2012, pp. 1-14.

13. Bhartendu Kumar Singh, "Defence, Development and National Security", *The Pioneer* (New Delhi), July 18, 2011.

14. "India Ranks Below China, Pakistan in Global Hunger Index, 2011", *The Economic Times* (New Delhi), October 12, 2011.

Ministers (GoM) on external security decided in 2011 to create a sovereign wealth fund that would enable Indian companies to buy mineral and energy assets abroad, it is unlikely to help the country that is projected to import about 150–200 million tonnes of coal and about 150 million tonnes of crude oil in the next five years¹⁵. In other words, India's power transition would still be subjected to 'energy insecurities' emanating from the international market. India still does not have any strategy to bring down its high level of oil imports—as high as 70 percent of its domestic requirements.

Finally, India has not been able to create a distinct identity for itself in international relations, again courtesy the absence of an NSS. Its championship of non-alignment, for example, did not win it too many friends and was subjected to critical scrutiny as a strategic tool after the 1962 debacle. In the 21st century, India is not able to push its own perception of international relations, despite a relative rise in its 'economic' power. To give one example, India is still shy in promoting 'democracy in other left over countries' despite being prodded by the US and other European countries, perhaps because it does not have the requisite resources or the same does not suit its national interests. Similarly, if India is yet to mobilise the necessary support amongst the fraternity of nations for its claim to permanent membership to the UN Security Council, it is primarily because the country has not been able to establish strong economic and military linkages with other countries that would facilitate and subserve India's national interests. India just happens to be another growth story for many of these Afro-Asian countries that find diplomatic relations with China more attractive and rewarding.

WHY INDIA NEEDS AN NSS?

If India could manage without a formal and official NSS all these years, it was primarily because New Delhi was always boxed in within the subcontinental politics and played a largely symbolic role in global politics. However, two decades of economic reforms have given New Delhi reasonable clout to

15. "GoM Gives Green Signal to Sovereign Wealth Fund", *The Indian Express* (New Delhi), November 05, 2011.

The NSS would also allow India to be on the right side in international relations during its transition phase and do away with conceptual confusions related to its national security.

reach out to new geo-political tracts such as Southeast Asia, Africa and even Latin America. As a rising power and potential aspirant of the great power club and the UN Security Council, it is only logical to have a pre-defined NSS that will identify India's extended geo-political interests, foreign policy priorities and the proposed ways and means to seek intended objectives. On the other hand, India would also be under 'observation' through its period

of transition to great power status, particularly from its apprehensive neighbours in South Asia, not too distant neighbours of Southeast Asia, potential friends from Africa, established powers like the US and China, and declining powers like the UK and France. India's democratic credentials have mitigated any apprehension about its rise that is predicted to be 'quite peaceful'. However, not much is known about India's evolving strategic culture, more so, since India doesn't have a strong military and has not participated in military duties in other countries except for peace-keeping operations. Declaration of an NSS could provide a 'basket of assurances' to other countries about India's strategic intentions.

The NSS would also allow India to be on the right side in international relations during its transition phase and do away with conceptual confusions related to its national security. One example would suffice. In recent times, the international community theorised that India has something called a "cold start doctrine" since 2004 i.e. a new limited war doctrine that would allow the Indian armed forces to mobilise themselves quickly and undertake 'retaliatory attacks' in response to specific challenges posed by Pakistan's 'proxy war' in India's province of Jammu and Kashmir¹⁶. In September 2010, the then Chief of the Army Staff Gen V K Singh clarified on record that there was nothing called a "cold start doctrine". "The Indian armed forces have a number of contingencies and options, depending upon what the aggressor

16. Walter C Ladwig III, "A Cold Start for Hot War? The Indian Army's New Limited War Doctrine", *International Security*, vol. 32, no. 3, Winter 2007/08), pp.158-190.

does”, he said, adding that “the basic posture of the military remains defensive”¹⁷. Such clarifications notwithstanding, even established scholars have not hesitated from predicting that India’s “strategic restraint” doctrine is soon going to be replaced by a “militarily adventurous” doctrine¹⁸, a proposition that is certainly untrue.

The proposed NSS would also satisfy India’s domestic constituency in two ways. First, it will induce greater transparency in the national security apparatus and policies. Despite having a democratic tradition, many defence and security matters in India are not discussed in public since they are perceived to be ‘sensitive’. Many agencies and institutions tasked with management of

national security issues do not even prescribe to parliamentary scrutiny of their work. Further, little effort is made to educate and mould public opinion. As a result, people have misperceptions and misgivings on many national security issues. Second, in recent times, there has been a series of demands like a greater role for India in Myanmar (facilitation of democracy), Nepal (institutionalisation of parliamentary democracy) and Sri Lanka (rightful place for the Tamil community in the post-LTTE socio-political set-up). Similarly, some strategic experts would like India to facilitate the ‘spread of democracy’ in left over portions of Asia and Africa; others would like India to align with the US or adopt certain strategic postures against India’s rivals like China and Pakistan. Either India does not have the requisite resources or it is not in its national interest to aggressively pursue these strategic paths. The NSS would go a long way to moderate these competing demands.

The post of National Security Adviser (NSA) has been in place for almost a decade but he does not have a blueprint to coordinate and direct the activities of various stakeholders in the management of national security. The proposed NSS would help the NSA in extracting work from these stakeholders and ensuring a coordinated response to any national security crisis.

17. “No ‘Cold Doctrine’, India tells US”, *The Indian Express* (New Delhi), September 9, 2010.

18. Sunil Dasgupta and Stephen P Cohen, “Is India Ending Its Strategic Restraint Doctrine?” *The Washington Quarterly*, vol. 34, no. 2, Spring 2011, pp. 163-177.

In recent times, Maoism has emerged as the largest security threat, affecting over 200 districts in India. The Maoist insurgency is supplemented by India's own brand of Islamic fundamentalism that was hitherto limited to imports from neighbouring countries like Pakistan. Though the response mechanism is largely institutionalised, coordination often becomes a tricky issue due to organisational conflicts about the exact nature, scope and implementation of their mandate in crisis times. The post of National Security Adviser (NSA) has been in place for almost a decade but he does not have a blueprint to coordinate and direct the activities of various stakeholders in the management of national security. The proposed NSS would help the NSA in extracting work from these stakeholders and ensuring a coordinated response to any national security crisis.

An area where the NSS could come in quite handy would be India's plans to defend itself in bilateral conflicts with Pakistan and China. Pakistan remains a headache for India through 'proxy war' i.e. export of terrorist activities. Over two decades of pangs of Pakistan-driven terrorism notwithstanding, India's national strategy is limited to counter-insurgency operations in Jammu and Kashmir, and the off-and-on diplomatic engagement with Islamabad. A comprehensive strategy to defeat Pakistan in its 'proxy war' is either missing or not made public. Similarly, a hypothetical response to the Chinese onslaught, that has emerged as the *numero uno* concern in Indian foreign policy, is yet to emerge. Since relations with China are getting conflictual in almost all areas of engagement and the border solutions are nowhere in sight, India desperately needs an NSS to plan out and coordinate its long-term as well as short-term response to Chinese strategic initiatives.

The NSS would also be useful in two areas where India would like to establish its influence: South Asia and the Indian Oceanic waters near the subcontinent. Both these areas have witnessed a relative decline of India's influence in recent times and a concurrent rise in China's influence. China would also like India to be otherwise boxed in, in the subcontinental politics and has invested heavily in all South Asian countries to thwart India's influence. Concurrently, its maritime presence is on the rise near

Indian waters. India needs to retain the leadership influence in South Asia and the littoral area around it, if not elsewhere, to play a larger role in the regional and continental politics. Similarly, it needs to increase its maritime influence and secure its interests in the Indian Ocean.

Last, India needs a coordinated synchronisation of defence and development needs while delineating a national security approach, rather than treating them as watertight departments. Defence, for example, is treated as non-Plan expenditure and does not come under the purview of the Planning Commission. The defence expenditure has been growing, particularly the pension portion, and has very little role in the national growth story. Dr Manmohan Singh has come out with the slogan of “inclusive growth” that is nothing but defence through development. The approach is akin to what the Chinese did under the “four modernisation” process during much of the Eighties and early Nineties. India intends to aggressively pursue this dream of “inclusive growth” through coordinated investment in defence and development. An area where this approach of “defence through development” is likely to bring dividends is the Maoist movement in the central heartland of the country, criss-crossing many states.

DRAFTING OF AN NSS: A PROBLEMATIC EXERCISE

National security is an evolving term. The contemporary emphasis is on a ‘comprehensive’ notion of security that includes apart from core security, peripheral areas of security analysis such as environmental security, developmental security and even human security. While the new emphasis on “inclusive growth” within the policy circles in the Government of India does assimilate developmental aspects of security, a strong bonding between defence and development in terms of resource distribution is still missing. The awareness about the environmental and human aspects is gradually picking up, but it will take time before national security is understood as a comprehensive and inclusive concept in India.

India also suffers because of its vocal refusal in outlining its strategic environment. This has given critics space to assert that India neither has a

strategic culture at present nor did it have one in the past. The practice of Indian foreign and security policies speaks otherwise. India has been known for following a “pacifist, defensive strategic culture” or simply followed what has also been called the policy of “strategic restraint”. The country has taken proactive steps only where its “core interests” are threatened. Identification of these core interests along with the strategic environment would be a challenge for India when it finalises its NSS.

While the National Security Council is likely to play a lead role for inputs, the Ministries of Defence and External Affairs are also likely to play key roles. As things stand, any discourse on national security in India is dominated by defence experts or foreign policy experts who are often victims of organisational thinking. There is hardly any space for development economists, environmentalists, agricultural experts, industry experts, urban planners, and Non-Governmental Organisations (NGOs). Unless these marginalised sectors are considered in the national security discourse, quality inputs would be missing and defence and foreign policy issues will dominate the NSS blueprint.

Identification of the components of the proposed NSS could, therefore, be a tricky thing amongst all the pulls and pressures. Prioritising these components would be a further challenge, say, for example, between defence and development or between rural and urban development. India has several models to choose from: the US National Security Strategy (May 2010) emphasises on retaining American hegemony over an increasingly multipolar world. The Chinese security strategy during much of the Eighties and early Nineties focussed on buying peace with neighbours and the same was sought to be achieved through a peaceful regional environment wherein China could focus on its development. However, in the last one decade, as evident from the official White Papers on Defence, China is seeking “Comprehensive National Power (CNP)” and an extended neighbourhood through oceanic missions in far off waters such as the Gulf of Aden. In designing the Indian model of NSS, it will be prudent for New Delhi to focus on issues like domestic insurgency deriving from economic exclusion

and address them through improved allocation of resources¹⁹.

Perhaps this explains why resource generation could be another challenge area. The NSS has to be 'cost-effective' and not a drag on the national resources. While the government has numerous policy measures to generate revenues and bring down wasteful expenditure, scarcity of resources remains an obstacle in implementing many national projects, particularly in infrastructure. The government also sits upon a huge amount of unexploited assets and other resources that could generate more revenues. In this context, the government's ambitious plan for accounting reforms and gradual introduction of accrual accounting in different departments is likely to give a better picture of assets and liabilities that could help in better financial management and resource utilisation.

The proposed NSS would also be challenged to fine-tune the doctrinal reforms and other ways and means to achieve its objectives. While a cue could be taken from the periodic Quadrennial Defence Review (QDR) and the National Security Strategy (the latest being in May 2010) published by the US or the Chinese White Papers on Defence (published bi-annually), the NSS has to cater to Indian strategic requirements. The war doctrines and strategic objectives must pretend to be non-offensive and charming to India's South Asian neighbours as well as other countries since India cannot afford to waste its energies on mindless power politics. Further, the NSS would have to emphasise on joint doctrines for the defence Services and encourage them to share their resources with the paramilitary forces since the latter need to be supported in counter-insurgency and anti-Maoist operations.

Finally, the differential perceptions on national security promoted by various stakeholders within the government as well those outside it could create problems for the NSS. While key Ministries like External Affairs, Defence, Home and Finance may have a dominant say in the NSS, other Ministries like Environment and Forests, Rural Development, Agriculture and Industries would also compete for their viewpoints to be included in

19. Rohan Mukherjee and David M Mallone, "Indian Foreign Policy and Contemporary Security Challenges", *International Affairs*, vol. 87, no. 1, 2011, pp. 87-104.

The National Security Council Secretariat (NSCS) is now quite an active body that oversees and coordinates India's preparedness on at least two counts: policy formulation on key strategic challenges, and intelligence gathering from a plethora of intelligence agencies.

the draft NSS; not to forget non-ministerial agencies like the Planning Commission. Further, the NSS may also get stuck at the draft stage and become a victim of bureaucratic procedures or organisational clashes amongst various stakeholders in the government. Perhaps that was the reason why the draft nuclear doctrine could never get finalised and got mired in controversies. The draft NSS is also likely to face critical appraisal from the political opposition, who may not agree with many aspects of the NSS. The challenge for the government

would be to ensure that the draft NSS does not get choked in the political controversies.

THE BUILDING BLOCKS FOR AN NSS

Several factors could facilitate the drafting of an NSS. First, many official publications by the Government of India or under its auspices could suggest the future contours of the NSS. The annual reports of the Ministry of External Affairs (MEA) and the Ministry of Defence (MoD), published some time in the month of April every year, do describe the political and security environment around India and the efforts made by the government to make the same conducive for India's interests. Though the focus of these reports is overtly on the various activities and developments in the preceding year, they do reveal the national approach on major issues challenging the country. Similarly, the Departmentally Related Standing Committee (DRSC) of the Parliament on Defence, in inception since 1993, has been presenting its regular reports to the Parliament on demand for grants for the MoD budget every year. In addition, it has also been presenting special reports on topical issues that it considers relevant. The quality of inputs assimilated in these reports is of the highest level. Mention must also be made of India's *National Security: Annual Review* published every year by

Routledge but supported by the National Security Council Secretariat (NSCS) and the Confederation of Indian Industry (CII), in publication since 2001. As the late Prime Minister I K Gujral said, the publication “made an important contribution to raising the national security consciousness of India’s strategic community”²⁰.

Second, institutional proliferation in recent times has also helped in shaping the national security consciousness. The NSCS is now quite an active body that oversees and coordinates India’s preparedness on at least two counts: policy formulation

on key strategic challenges, and intelligence gathering from a plethora of intelligence agencies. The National Security Adviser (NSA) has emerged as the key person on national security issues and reports directly to the prime minister. There is also a National Security Advisory Board (NSAB) consisting of reputed and established persons that meets from time to time to offer non-official views on national security matters.

Third, the emergence and proliferation of the think-tank network, both within and outside the government, is also a factor that should facilitate the NSS. While the government-controlled Institute for Defence Studies and Analyses (IDSA) has been there since the late Sixties, it has been doing very well in recent times and is indeed developing a long-term vision of an NSS under its IDSA National Strategy Project (INSP). The United Services Institution of India (USI) is running its own national security project through the involvement of retired armed forces officers. The defence forces have also sponsored specific think-tanks to promote their respective aspects of national security: the Centre for Land Warfare Studies (CLAWS), Centre for Air Power Studies (CAPS), National Maritime Foundation (NMS) and

India’s relative rise has created a unique situation, where its ideational preferences lag behind its enhanced economic and military capabilities. This is diametrically opposite to the dilemma in the early years of the republic, when India’s aspirations were not commensurate with its underlying power.

20. Compliments printed on the back side of Satish Kumar, ed., *India’s National Security: Annual Review 2009* (New Delhi: Routledge, 2009).

Centre for Joint Warfare Studies (CENJOWS). Private sector think-tanks like the Observer Research Foundation (ORF) and the Institute of Peace and Conflict Studies (IPCS) have equally done good research on various aspects of national security.

Fourth, India also has the benefit of a whole new generation of strategic thinkers who continue the tradition of 'great strategic thinking' of the late K Subrahmanyam. These thinkers come from different fields like journalism, academics, defence services and bureaucracy, and wield respect both within and outside the government. Together, they have sensitised and educated the public opinion on various aspects of national security apart from occasional lobbying with the government. Most of them have served at least one tenure in the National Security Advisory Board (NSAB). As and when the NSS is drafted, the inputs received from them are bound to influence its final outlines.

PRECAUTIONS IN FORMULATING THE NSS

India's relative rise has created a unique situation, where its ideational preferences lag behind its enhanced economic and military capabilities. This is diametrically opposite to the dilemma in the early years of the republic, when India's aspirations were not commensurate with its underlying power.²¹ A documented NSS would enable India to balance the same since economic reforms have given it the much desired clout in international relations. This clout is only going to be consolidated as India would become a front ranking economic power due to its continued Gross Domestic Product (GDP) growth. Concurrently, India is also likely to witness its own Revolution in Military Affairs (RMA) and would be in a position to allocate more resources for its defence forces modernisation.²²

21. Zorawar Daulat Singh, "Thinking About An Indian Grand Strategy", *Strategic Analyses*, vol. 35, no. 1, 2011, pp. 52-70.

22. According to Kanti Bajpai, India must be more attentive to the challenges of the global commons and more internationalist in its national security stance than ever before. See Kanti Bajpai, "The Global Commons and India's National Security Strategy", <http://www.idsa.in/nationalstrategy/wp/KantiBajpai.pdf>. Accessed on October 12, 2011.

Much will depend, however, on what kind of NSS is drafted! There are various models of power projection in contemporary international relations. While the US national security strategy aims at maintaining the country's leadership role in the political, economic and military fields, the Chinese White Papers on Defence are essentially 'revisionist' and seek to alter the global balance of power and challenge the US leadership in the Asia-Pacific region, if not elsewhere! Britain and France, on the other hand, seek to salvage the power and influence of declining great powers, though without much success. As a rising power, India would have to exercise its options rather carefully. The NSS should enable the country to play a leadership role at the regional if not the global level. Concurrently, it should enable the country to manage relations with a rising China without falling into the traps of balance of power tactics or alliance politics. Most importantly, it should enable India to overcome its defence vs development dilemma and seek comprehensive national power through planned efforts, as the country navigates the transition to great power status.

An area that would demand precaution in the proposed NSS would be the tendency for institutional proliferation in the name of national security. Both as a result of the Kargil Review Committee and the Group of Ministers on national security, a number of new security institutions came into existence. Not many of them have lived up to expectations and indeed some of them have become parking places for retired bureaucrats and Service officers. The NSS must rather streamline to ensure more synergy and coordination among the existing institutions.

Finally, the proposed NSS should correlate itself with certain long-term insecurities that make a mockery of India's attempts to provide a world class life-style for its citizenry. The billion plus population has a considerable section living below the poverty line. A large proportion of the population in both rural and urban India does not have access to clean drinking water. The second generation agricultural revolution is challenged by infrastructural bottlenecks such as the absence of pan-India river water linkages. While a considerable section of the Indian population has shifted from rural to urban areas, the migration has been mostly in tier I cities,

adding to their managerial and administrative insecurities. India is still way behind China and even some South Asian countries in providing better civic facilities to its citizens. The 12th Five-Year Plan does address some of these generic concerns²³ but defining them as ‘insecurities’ and linking them to the NSS would make it a more relevant document.

CONCLUSION

A documented NSS will be a handy document for India to manage its relations with its small South Asian neighbours, seek peace with China and Pakistan and navigate its way in international relations through the right type of power projection. It will also enable the country to focus on the developmental deficit and buy the essential ‘time and peace’ in the hitherto problematic Asian security architecture. Most importantly, it will bridge the gap between India and the rest of the world.

The institutional and academic investments in national security projects in recent times only show the emerging consensus on India having an NSS. There were expectations from the Naresh Chandra Committee making a strong recommendations for an NSS, but the same did not come through, thus, prolonging the expectations for the document. Given the spate of defence and security reforms, the demand for an NSS is likely to be the most logical outcome. The time is ripe for India to come out with an NSS that is affordable and sustainable, and to create a new image for the country in the comity of nations.

23. See, Planning Commission, “Faster, Sustainable and More Inclusive Growth: An Approach to the 12th Five-Year Plan”, August 2011. Available on www.planningcommission.nic.in

AIR POWER: FUTURE CHALLENGES AND EMERGING ROLES

DHIRAJ KUKREJA

INTRODUCTION

From the end of the last century, it has been seen that the nature of war and armed conflict has been changing significantly, primarily due to two reasons, namely, the constantly evolving geo-political equations; and the unparalleled developments in technology, which were once considered to be a figment of the imagination. The world order today is changing at a rate that may be termed as illusory. The pace of the change may be comparable to the times that followed the defeat of Napoleon in 1815 and the defeat of Germany and Japan at the end of World War II in 1945. These changes, coupled with the advancements in technology, have significant implications on the nature of war, and, hence, national strategy, military strategy and force structure.

Ever since the first use of air power as an instrument of war, it has been constantly evolving. Being a technology reliant and technology intensive force projection capability, air power has always capitalised on developments that have taken place within scientific research. The combination of innovative concepts for its employment and active technological support has made air power one of the primary tools to be employed by governments across the world in pursuit of their national interests. The position that it occupies in the

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The last decade of the 20th century and the first decade of the 21st century have given us more than an inkling of the possible ways in which air power could develop. It has also indicated the pitfalls that always accompany rapid progress.

forefront of military capability demands that future developments in this vital capability be studied in earnest.

The last decade of the 20th century and the first decade of the 21st century have given us more than an inkling of the possible ways in which air power could develop. It has also indicated the pitfalls that always accompany rapid progress. Without doubt, air power seems to have come of age by a display of its capabilities. The cynics who thought that air power could not ever, by itself, fight and win

wars have been proved wrong. While this assertion is debatable, there is now a reluctant acceptance of the independent status of air power. Military thinkers have come a long way from the times when the other two older (senior) Services were bent upon suppressing the concept of independent air power and reducing it to a mere support status.

Since air power has proven to be extremely effective in the past two decades of intermittent and limited warfare, it is necessary to study its current state and then understand the ongoing transformation. The key to this transformation, as also the changes that are likely in the future, is the close interaction of the advancements in technology and the characteristics of air power. As mentioned, no other power projection capability has been born of technology, constantly been nurtured by technology, and remains constantly underpinned by technology for its very existence.

Even a cursory look at its development through history reveals that air power has always been a constantly and rapidly evolving entity. As we continue our march into the 21st century, there is, therefore, a need to examine the possible ways in which the traditional roles of air power are likely to evolve, which this paper shall endeavour to. The paper shall also take a broad view of the development of air power and the challenges that it is likely to encounter in the face of emerging threat trends that the air power strategists would have to grapple with in the employment of this

versatile force projection capability. The future is uncharted territory; it is, therefore, essential to begin with a credible reference as a starting point with some suppositions in reference to the future, in general, and the way wars will be fought, in particular.

ASSUMPTIONS

Crystal ball gazing is a risky proposition, especially when one wishes to predict the future, as it is fraught with the danger of being completely off-track. If, however, the predictions are based on assumptions which are well argued or thought of, the uncertainties could be limited, thereby improving the accuracy of predictions and making the process of planning for the future comparatively simpler. The assumptions are as under.

- **Indistinctness:** The clear demarcation of boundaries in the social, economic, political and geo-strategic spheres has become blurred—examples of which can be seen on a daily basis—thereby making the world an uncertain place in the foreseeable future. Since each of the spheres mentioned impinges on the other to some extent, the future in all spheres is near impossible to predict. There may be some clarity in individual spheres, making events more predictable, but the overall greater uncertainty overshadows it. The inherent indistinctness is a universal phenomenon and has to be accepted as such.
- **Political Involvement:** Whether a nation commits itself to join a conflict or not depends on its foreign policy. The commitments so made also have a ramification on the threats that the nation may have to face, and, hence, on the force structure it would have to maintain. The force structure would obviously include air power. Considering the ubiquitous nature of air power, there has always been political interest in its deployment. With the passage of time, it has been seen that the impact of air power has increased tremendously and, hence, it can be

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assumed that the political involvement, that has been the norm so far, will only increase in the future. What effect such involvement will have on the efficiency of air power is difficult to predict.

- **Legal Implications:** Throughout history, war between two nations has been natural, and at times even thought of as essential; there have, however, been certain norms specified in the conduct of war to safeguard the non-combatant citizens and to ensure a degree of safety to the wounded and captured combatants. With the progress of civilisation, increasing constraints have been placed on the application of force by nation-states, whether in war or otherwise. The more mature democracies are now bound by formal codes of conduct, which put under scrutiny all applications of force. Air power, because of its spectacular and more visible nature, comes in for more than its fair share of criticism, even when genuine mistakes are made. The civilian political leaders are more than aware of the negative impact that collateral damage can play in a world shrunk by information technology. It would, therefore, be safe to assume that the application of air power by nation-states in the future would be under rigorous legal constraints; as a corollary, the non-state actors, though they may not have air power at their disposal, would be able to apply force at will, thereby increasing their asymmetric advantage.
- **Resources:** Air power is a technology-intensive force projection capability and, hence, has always needed more funding in comparison to other military capabilities. It is not only the initial research and development of a platform, but the subsequent acquisition and sustenance of the equipment and the professionals who man the force that require the high funding. Under such demand of funding, it can be assumed that resources will remain a constraint for the development and optimum utilisation of air power.
- **Technology and Air Warfare:** Technology has brought about a paradigm shift in the employment of air power and is crucial for its effectiveness, but the nature of air power is such that expectations will forever lead the capacity; notwithstanding the lag between technology and air power,

surprises that will translate into major revolutions in military capability, will continue to be sprung by technological evolutions. Air power, though, having gained predominance, both as a deterrent to war, and in the eventuality of war, as a devastating capability, may not be able to match the asymmetric advantage of increasing instances of terrorist related activities.

- **The Mindset:** An overarching aspect that needs to be considered in the context of future developments is the challenge of adapting the human mind and perceptions to optimise the utilisation of air power capabilities. While technology may be able to fulfill the necessary demands, even though it may be with a lag, human perceptions can be hard to overcome. The inertia of the mindset can be detrimental to the progression of concepts, especially when the changes are being brought about by cutting-edge technology. Continuous training after a sound basic education and an exposure to innovative thinking can improve the situation to a certain extent, but the natural mistrust in the human mind of any unproven or untested technology will have to be factored in for it to be realistic.

The assumptions listed above are not necessarily the end-all of the assumptions, but they do encompass almost the entire gamut of extraneous influences. The explanations given above are considered sufficient for the purposes of this paper to set the scene, though each factor can be further discussed and debated at great length.

TRANSFORMING AIR POWER

Air power is a dynamic concept, but the characteristics have remained near constant from the first military use of air power; it is only the effectiveness and operational exploitation of air power that has altered with technological progress. The characteristics of air power must be understood as factors governing its effective employment, and not as positive and negative traits. They do not exist discreetly, and the application of air power is shaped and enhanced by the synergies and interactions between multiple characteristics.

Changes in air power capabilities and concepts for its employment have generally been brought about after careful thought, gradually, and after rehearsals, towards a known end-state, to be immediately followed by another cycle of change. It is for this reason that the present theories that steer air power need to be analysed before we try to comprehend the future options as a continuation of the present.

- **Awareness:** Future predictions can never be absolute, even though the accuracy of tools available to carry out future projections is far greater in the present times than ever in the past. Notwithstanding the lack of assurance in predicting the future environments, this availability does help to ensure that the thinking is more accurate. A question that may be asked is: why is improved predictive accuracy of importance? The answer to the question is that it is conducive to making doctrines more attuned to being dynamic and adaptive, which obviously is the foundation of successful application of air power in any contingency. An acceptance will ensure that air power is able to control the overall character of operations, from the strategic to the lowest tactical levels.
- **Availability of Real-Time Intelligence:** To any fighting force, the biggest challenge is to identify the targets that have to be neutralised. New technology has once again come to the rescue to facilitate the collation and dissemination of intelligence data, almost in real-time. Additionally, this facilitates the planning of further operations to engage newer targets. This has reduced the 'sensor-to-shooter' timeframe, a cornerstone of the ongoing transformation and a significant contributor to the primacy of air power in both combat and non-combat situations.
- **Reach and Precision:** Technology has also come to the aid by increasing the offensive capabilities of air power with discrimination in its lethality; the political constraint of collateral damage is near-removed through the utilisation of precision weapons. In addition to air-to-air refuelling, advances in propulsion technology have given air power unprecedented reach; this precludes the necessity of a forward base within or close to the theatre of operations.

- **Jointness:** Slowly but surely, a shift at the strategic level of military thinking towards 'jointness' is being noticed. There are many reasons for this shift from parochial, single-Service thinking and it bodes well for the capabilities of military forces. If adroitly manipulated, this shift can lead to an acceptable level of seamlessness in the future.

The blend of availability of real-time intelligence and the improved combination of effective precision with enhanced reach, leads to a compression of the decision-making and engagement cycle. The robustness of a decision-making system at a pace faster than that of the adversary is a primary input for victory at any level of operations. Specific air power capabilities are heading towards this direction and in the future will enable commanders at all levels to achieve domination of the 'sensor-decision-shooter' cycle.

NATURE OF FUTURE WARFARE

Warfare has entered a new era with national security having gone beyond the traditional concept of safeguarding one's own frontiers from incursions. The fallout of globalisation of the economy has been that the security imperatives of all nations have grown beyond geographical boundaries. New paradigms have imposed themselves on the concept of ensuring security, with an emerging environment defined by multiplicity of threats, far more complex, diverse and non-linear. With the passage of time, the challenges that a nation faces are only going to increase in complexity and intensity; conflicts over resources, including oil and water, and deeply rooted differences based on ethnicity, religion, nationalism, and ideology can flare up with state and non-state actors using conventional and asymmetric means. The emerging security challenges can be broadly grouped as under.

- **Traditional Threats:** Traditional threats are those posed by the conventional defence forces of an adversary. An attack by the conventional forces is tantamount to declaration of war, even if instances of legal declarations are reducing in recent times. Within the international community of nations that share diplomatic and other relationships,

The proliferation of high technology weapon systems and their affordability, while assisting the military forces of all nations to improve their efficiency, is also facilitating their availability to the adversaries. A cyber attack is no longer a piece of science fiction but a reality.

the chances of such a situation developing are low, perhaps, even remote. From a military perspective, the traditional threat by the conventional forces of an adversary is dominant in capability development and force structuring; the likelihood, however, is reducing day by day. Conventional air, land or sea attacks are not likely to be conducted against a developed nation and even if such an attack were carried out, the effect would be minimal, leading an adversary to opt for asymmetry.

- **Asymmetric Threats:** The conventional military capabilities possessed by the developed nations are such that a weaker opponent would be foolish to use its conventional forces for an attack; this has led to the beginning of asymmetric warfare. The disparity between the 'haves and have-nots' has grown with the advances of technology, and security challenges can, therefore, be expected to emanate from non-state actors, including terrorist and guerrilla groups. The aim of such adversaries would be to use the terrain, including urban centres, to their advantage and attack the clear demarcation of battle-lines, targets or even combatants. Such asymmetric conflicts are only likely to increase in the future and conventional forces would be more vulnerable when under such an attack.
- **Disruptive Weapons:** The proliferation of high technology weapon-systems and their affordability, while assisting the military forces of all nations to improve their efficiency, is also facilitating their availability to the adversaries. A cyber attack is no longer a piece of science fiction but a reality; it is not difficult to imagine such an attack on the network of conventional forces to neutralise them for a given period; communication jamming is perhaps even simpler and more affordable. A viewing of the Hollywood thriller, "*Die Hard 4.0*" clearly shows the damage

that can be inflicted through a cyber attack. Emerging technologies include breakthroughs in sensors, biotechnology, miniaturisation, information technology, nano-technology, directed energy and non-lethal weapons. Currently, these technologies may present the least likely threat, but the easy availability to rogue elements must be included and catered for, in all future planning.

- **Weapons of Mass Destruction (WMD):** These weapons can also be termed as devastating weapon systems. During the Cold War, a nuclear holocaust was considered the most dangerous, but least likely, as only the two superpowers possessed such capabilities; the current challenge, on the other end of the field, is the high likelihood of rogue elements obtaining rudimentary, yet functional WMD. A response to such a challenge may not always be possible through military action, since there would be no assurance of their destruction. Under these conditions, only diplomatic and deterrent pressures can work, which only a few of the more powerful nations can achieve. The international community has to work together to curb such proliferation and keep this serious challenge under check.
- **Natural Disasters:** Natural disasters do not fall under the traditional definition of security challenges, yet military forces have to possess the capability to be able to respond to such situations, as has been demonstrated from time to time. These can pose security challenges by the sheer devastation caused and the further repercussions of delayed or inadequate relief to the affected population. Military forces, notwithstanding the availability of dedicated rescue and relief organisations, are arguably the best suited to face such emergencies, because of their training and equipment and ability to work as a cohesive team.

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Each of these categories can have a bearing on the other, the degree of influence depending on the circumstances and environment of the emerging trial. The spectrum is vastly spread with the possibility of a traditional challenge with irregular and disruptive capabilities playing a small role on the one end, to an emerging challenge that has just the opposite—a predominance of irregular and disruptive content and a near absence of traditional challenge. The future may, thus, demand capabilities that focus on how an adversary may fight rather than specifically on who the adversary is or where a fight may occur.

An attempt to neutralise the preponderant military capabilities of the developed world is more likely to be through asymmetry. Cyber attacks, not just on military networks, but on all aspects of national infrastructure vital to the economy, can be expected to increase; the possibility of rogue elements attempting to neutralise space assets cannot be ruled out and have to be catered for, for such attacks, if well coordinated, can be disastrous to any military operation. Hence, such security challenges demand a very balanced and flexible response from national military forces, compounded by traditional forces having to resort to irregular or disruptive strategies.

The only military response possible to foil such asymmetry is through long-range coercive strikes, coordinated among the land, air and maritime forces; the omnipresent characteristics of air power to be able to respond swiftly, with lethality at long ranges, make it a dominant and decisive factor. Hence, air power application would have to be factored in a strategic manner to achieve quick and dynamic results. The primacy of air power will continue even while undertaking operations at the lower end of the spectrum; only air power, or land forces aided by air power and space-based assets can effectively deny success to the adversary.

Future conflicts will have some common characteristics, which will be further emphasised with the passage of time. They will erupt abruptly, but the intensity and tempo associated with conventional warfare will only last for a short duration. The conflict is, thereafter, likely to degrade into a long-drawn campaign of attrition and testing of the will of the more conventional protagonists. The asymmetrical opponent is likely to gain

the initiative through the element of surprise by choosing the time and place of a confrontation. It is only air power, or ground forces aided by a combination of air power and space power, that can effectively deny time-space expansion, so vital to the survival of such an adversary.

UNIQUENESS OF AIR POWER

Air power characteristics have remained near constant since its first employment in operations; it is only the effectiveness and operational exploitation of air power that has altered with technological progress. It, therefore, would be apt to discuss the uniqueness of air power that makes it a primary choice in any kind of warfare.

Air power has the capability to cater for the rapid changes occurring in the challenges to national security through its flexibility to adapt to the emerging situations, within the context and given timeframe. The primary thrust for air power has been, and should continue, to be able to provide uninterrupted battle space dominance, defined in terms of time and space. In order to provide such dominance with persistence, the weapon platforms would necessarily have to be a healthy mix of manned and unmanned vehicles. The contribution of the Unmanned Aerial Vehicle (UAV), both in the armed and unarmed roles, in achieving and maintaining dominance in the battle space, is cost-effective as opposed to the manned vehicles and hence, has made it a part of a well-conceived force mix.

In combination with the platforms, the weapons themselves have to undergo positive changes to be effective. The use of precision weapons has come to be expected, notwithstanding the high cost, as collateral damage has to be kept at a minimum. With precision, the dependence on mass or numbers is reduced, while the option of the use of non-precision weapons or weapons in numbers to destroy a target, continues to be available. There are other non-kinetic weapons being tested and non-lethal solutions are also on the drawing board. Although the use of such weapons is likely to be shrouded in debate due to the legal issues on their use and possible objections by human rights activists, a pragmatic view has to be taken to include them in the arsenal, with their availability and affordability being the only restrictions.

Apart from the principal contribution of air power to provide persistent battle space dominance through rapid and effective response, two other enabling capabilities also need to be well honed, namely, network centricity and utilisation of space. It has been aptly demonstrated in the conflicts of the last two decades or so that the efficiency of a force is, almost completely, controlled by shared situational awareness provided by secure data-transfer techniques and procedures. In order to reduce response time as a counter to surprise, data-transfer redundancy and a high rate of transfer, to achieve near real-time capabilities, are essential. The network, connected to space-based assets, has already become the 'eyes and ears' of deployed military forces all over the world with increasing dependence; the importance of the network as the backbone of the communications system cannot be overemphasised to be provided the highest security.

There is a subtle shift in the way air power is now viewed, as compared to about two decades ago. In the 1990s, the emphasis was on the aircraft, its inherent capabilities and the technology that enabled it. In the last decade, the accent shifted to weapons, with the delivery platform being considered secondary. The current trend indicates that the attention from weapons is shifting to demanding a desired effect rather than the wherewithal for it to do so. From attrition-oriented warfare, the concept is changing, with physical destruction of targets being replaced with the dual concept of strategic control and functional paralysis. The aim behind this shift is to isolate the Command and Control (C2) structures, augment psychological warfare and strike deep into the adversary's territory to paralyse his centres of gravity. Air power, in essence, has become a form of war with the advantage of high mobility, adequately supported by technology, to get the better of the adversary without spilling too much blood.

A CHANGE IN AIR POWER ROLES

Traditionally, the primary role of air power has been to gain and maintain air superiority. Having achieved this, it is normally pushed into a support role, providing firepower and other support functions to maritime and land forces. If air power is to genuinely create effects, as is being asked from

it, the current roles will also have to be given a boost to conform to this paradigm. Until some years ago, air power did not have the capability of precision with an acceptable assurance in surface attack missions; it was not able to stay over target areas for too long, nor was it able to provide the rapidity that has today become a necessity. Adept use of cutting-edge technology has almost eliminated these lacunae to an extent that air power today has become the primary instrument of choice in waging any type of war. Under these circumstances, the evolving roles of air power could be listed as follows:

- Control of the air;
- Strike;
- Airlift;
- Enabling operations; and
- Environmental air control.

Control of the Air: Control of the air, quantified in time and space, as well as in varying degrees of dominance, is an absolute essential for the successful culmination of any military activity. This has been the *raison d'être* for air forces for almost a full century. There is an undeniable interdependence of the strike role and the quest for control of the air. Though most strike operations will be dependent on an acceptable air superiority situation for their success, operations aimed at gaining control of the air can be listed as a major priority in any campaign. In some cases, independent strikes with limited control of the air can be executed with a combination of stealth, state-of-the-art self-protection technology with the backing of sufficient situational awareness, provided by adequate real-time information; such a combine can provide a fair degree of safety assurance for the strike platform. Notwithstanding the technology available, one cannot be carried out without the other and therein lies the question of prioritisation. It, therefore, would be correct to state that both have an equal and determinate role to play in the efficient employment of air power towards the achievement of national objectives.

Lack of precision that necessitated the use of a large number of air-delivered weapons on a target to get a high degree of assurance of damage or destruction, can today be addressed by accuracy that was probably unthinkable even at the turn of the century.

Two factors are underlined for the achievement of success in an air superiority campaign. First, in an air force with limited assets, control of the air will always have to be calculated and measured in terms of time and space. Asset allocation would also have to be balanced to meet the three requirements of the initial days of the war, namely, air superiority leading to control of the air, Suppression of Enemy Air Defences (SEAD), and strike; these form sub-sets within the primary roles of control of the air and strike. To achieve eventual success in the operations, where juggling of resource allocation has to be resorted to due to the limited resource availability, one cannot advocate the application of any 'thumb-rule' and it would be up to the authorities to exercise caution, judgement and discretion.

The second factor important to achieving success in air superiority operations is the security of own assets and availability of air bases. While availability of air bases away from one's area, that is to say, having an air base in another allied nation, is more a matter of politics, the security of these bases and own bases is a matter of concern. Both availability and security, therefore, are to be ensured prior to launching an air campaign.

Strike: This role, as mentioned above, is interdependent with the quest for control of the air. Three modern traits have given the strike role predominance in air power, namely, reach, payload and precision. A negative aspect in the past that affected strike capabilities was that of limited range, which, in turn, had an effect on the load carried and the requirement of adequate basing facilities in the near vicinity of the theatre of operations, thus, degrading the assurance levels for success. Technology, in the form of long-endurance platforms and Air-to-Air Refuelling (AAR), has mitigated the adverse effects of the shortcoming. Today, sufficient AAR capabilities are an indicator of assurance of the reach of air power to any distance, while operating from the safety of own bases.

Technological improvements have also increased the effects of a certain weight of attack; this too has resolved the issue of restricted payload carrying capacity that had harassed the planners of strike forces in the past. A target that would have needed multiple strikes for it to be neutralised, can, today, be attacked with a single weapon. The era of 'carpet bombing' is also over due to technology providing the necessary precision to the weapons as well as the platforms. Lack of precision that necessitated the use of a large number of air-delivered weapons on a target to get a high degree of assurance of damage or destruction, can today be addressed by accuracy that was probably unthinkable even at the turn of the century.

With these three drawbacks resolved to a very large extent, air power is now capable of covering the entire spectrum, from the strategic to the tactical, thus, giving it versatility and providing the decision-makers a force for first consideration that can deliver with inherent flexibility and lethality. In the days to come, air power is likely to possess another capability, through cutting-edge technology, that of using the Electro-Magnetic (EM) spectrum as a part of the larger strike role. Invasive intrusion in the EM spectrum is emerging as a powerful and effective weapon to achieve the necessary results to gain enough prominence for it to be included as a sub-set of the strike role.

Airlift: From a purely theoretical perspective, airlift is one of the prime movers in providing the force with the capability of simultaneous ingress for concurrent operations into a theatre and subsequent sustainment. The importance of airlift as a mainstay ability has varied with time, but today, adequate capability is undoubtedly required within a force to provide an overall quick reaction. This responsiveness is perhaps more important to the land forces at the commencement of operations.

One of the most important functions of airlift in the developing tactical situation is its synergy with special operations, which cannot be successfully

It is extremely important to possess the capability for an immediate airlift to respond in times of natural calamities, or terrorist attacks; such a quick response may achieve strategic effects of its own.

completed without adept airlift capabilities that can be brought to bear upon the adversary, in a reliable and steady manner. At the tactical level, airlift provides the special forces with increased speed of response, thereby largely controlling the overall pace of the operations.

Airlift capabilities, provided by either fixed-wing or rotary-wing aircraft, tactical or strategic, are also an important component of air power in Operations Other Than War (OOTW). It is extremely important to possess the capability for an immediate airlift to respond in times of natural calamities, or terrorist attacks; such a quick response may achieve strategic effects of its own. The importance of airlift is underlined with the current trend of nations to be involved in operations away from their own mainland because of redefined security perceptions initiated by rapidly changing geopolitical scenarios.

Enabling Operations: All operations that enable and support the effective employment of air power come under this generalised caption. This would include Air-to-Air Refuelling (AAR) missions, which provide the focus on reach and persistence; early warning and control activities, be they air or surface-based; information operations, including collection, collation and dissemination of relevant information; and reconnaissance.

Increasing instances of irregular threats have ensured that this role is now a part of the larger non-kinetic strike role that air power can be called to undertake. The latest technology permits identification of targets well outside the envelope of weapon release and provides intrusive information to the land forces in complex and deep urban environments. This expansion of tasking of air power in support of the ground forces is a relatively new niche capability that is becoming a sub-set of the offensive air support role to the ground forces.

For future operations, knowledge management is another necessity and the use of air assets in large numbers for the task cannot be ruled out; it is in this area that space-based assets are increasingly displaying their ascendancy. All force projection capabilities are becoming increasingly dependent on space operations, and the trend is only likely to be more evident in the decades to come. The omnipresence of space-based assets

has permeated the conduct of all operations, be they by a single Service, joint or coalition forces. The reliance on space has huge advantages, but the availability, or non-availability, of such assets needs to be factored into the planning process. For the not so technologically competent forces, space capabilities are available commercially and such availability is only likely to increase in the future; however, the issues of high costs, the reliability of information provided in times of operations and the required redundancy, may be deterring factors for nations with small economies.

Here too, resource limitations will force the prioritisation of various factors to determine the asset availability for a particular enabling operation. As a result, there is a need to balance the force projection capability with force protection and enabling experience and expertise. The balance cannot be specified since the requirements would vary as per situation, the most influential being in the context and theatre of operations.

Environmental Air Control: The Chief of Staff of the Israeli Defence Forces, Gen Dan Halutz, the author of this term, is quoted in an article, "Israeli Air Force Seeks Expanded Anti-Terror Role", in the *Defence News*, dated March 28, 2005. Environmental air control, he says, is a dynamic and evolutionary role that meets the requirement of a complex and fluid challenge posed by low intensity conflicts and insurgency. While high intensity conflicts would normally be of short duration, there could be low intensity conflicts that could test the resilience of any regular military force. Under such circumstances, air power could be a decisive factor in containing low intensity conflicts, especially in the urban environment.

The most noteworthy part that air power can play in these trying conditions is the ability to see, understand and strike more rapidly, thus, maintaining a broader perspective. Such operations, to be successful, must have flawless coordination between intelligence agencies to ensure accuracy of the threat scenario in entirety. What the commanders need to keep in mind is the dynamic nature of the threat and, hence, constantly review and refine the concept of operations to neutralise the threat.

There are three distinct advantages in employing air power to counter insurgency, terrorism or infiltration situations. First, it provides relief to the land forces from the burden that is almost fully carried by them currently. Second, it can assist in overcoming international opinion and legal implications of the presence of land forces in disputed areas. The concept of “boots on the ground”, while credible in a regular war, can have a negative effect in cases where their detection itself could lead to an intensification of conflict. Finally, and conceivably the most crucial advantage is the ability of air power to interrelate strategic and tactical contexts and produce timely effects in consonance with the emerging situations. Refinements of strategy and tactics, as well as increasing awareness of the advantages that air power brings to very complex and unclear conflict situations, is important to ensure the effectiveness of such applications. In such circumstances, the decision-makers and commanders must take care while sanctioning the employment of air power against irregular warriors, who may be one’s own citizens, and sections of whom may be fighting as a part of the land or air forces.

CHALLENGES OF THE FUTURE

In a dynamic environment and an equally dynamic capability, the future will always be cloaked in a haze of the unknown and unforeseen. Irrespective of the competence growth and greater understanding of the effectiveness and potential of air power over a wide range of activities, there would always be challenges to be faced, some intimidating and overwhelming, some minor and yet unsettling.

Considering the present geo-political setting in the world, any eruption of a crisis that warrants the use of force, will be random in its character and timing. The corollary, therefore, for air forces is that the preparatory time would be limited and inadequate. Since one of the primary characteristics of the employment of air power is rapid mobilisation, such a situation puts added pressure on existing capabilities. Under such conditions, the challenge that faces the planners and strategists alike, is the absolute need to fine-tune the process of force modernisation and development. High-end technology takes time to develop and refine; this increases the period to

field new operational capabilities with revised doctrines. This is especially applicable to air power since gestation periods are long for new acquisitions or a revamp of equipment, training and operational capability, hence, cannot be done while 'on the move'.

Technology, that promises a robust performance, has to be thoughtfully selected, despite the uncertainty surrounding its development and the flexibility required to accept and adapt to it, to produce the desired effect. Training, aimed at achieving such flexibility, can become a major issue and can consume unwarranted amounts of resources; hence, a fine balance is warranted between training with the new technology, and adhering to the existing doctrine, to mitigate the challenge to whatever degree possible.

With continuously evolving technology, the gamut of command and control is emerging as an independent entity with innumerable inputs. There is already usage of artificial intelligence to filter these inputs to the command and decision-making cycles, as the process is getting more complicated by the day. Future commanders are likely to face major complexities within the command spectrum.

- To be able to utilise the available spectrum of Intelligence, Surveillance, Reconnaissance (ISR) and communications systems in totality in a war-winning manner, commanders will need to have in-depth knowledge, not only of the human factors, but also the systems employed. The important requirement of understanding the system issues is an indication that future commanders would be trained combatants with considerable technological knowledge and training, in other words, a 'techie-combatant'.
- Another complexity that the future commander is likely to face is the matching of human and artificial, or machine intelligence, to condense the executive cycle. To achieve this effectively, in a world of high-end machines, it would be necessary to understand and establish a clear framework to merge the human in the decision-making chain; a process easier said than done.
- The prevailing Law of Armed Conflict does not refer to the use of artificial or machine intelligence inputs in decision-making, and the

The shift in focus to effects-based operations has called for a need for optimisation of the roles of the available assets while ensuring an improvement of multi-role capabilities.

results thereafter, of subsequent actions based on such inputs. Today, there is widespread condemnation of any military action that causes collateral damage, even if the military or the country claims legitimacy of such actions; the risk, with increasing use of artificial intelligence, will only amplify in the years to come. The use of such combinations has, therefore, to be understood from the legal and political angles.

The most sought-after air power application is its unsurpassed capability for rapid response with the means of delivering destructive and demoralising firepower at the forefront of force projection. Airlift is at a close second in bringing the land and other support forces to the front, at a speed better than any other mode. Then, where is the challenge? The challenge lies in balancing the rapidity of response with the weight and usefulness of the deployed force. The speed of response and enhanced reach have to be tailored to ensure adequate persistence as a built-in feature; persistence will be affected by the availability of heavy lift resources for follow-on actions, which, in turn, affect the power-projection capabilities. Depending upon the circumstances, such airlift would have to be tactical or strategic, and, hence, the accent on the need to possess heavy airlift capabilities. Resource constraints and concept of operations, some of them outdated, have made heavy lift capability a part of the wish lists, rather than actual capability, thus, making availability and adequacy a challenge.

There is an indicator of a change in strategic thinking and planning, wherein the effects are of concern rather than the weapons or the platforms employed. The shift in focus to effects-based operations has called for a need for optimisation of the roles of the available assets while ensuring an improvement of multi-role capabilities. This shift is dictated by political requirements where air power is expected to deliver a range of effects, with a proportionate use of force, while avoiding or minimising collateral damage. The challenge, therefore, will be to ensure timely delivery with

a combination of precision and accuracy. Air power, therefore, will be severely under pressure to create such capabilities with a high degree of reliability, without which, its employment may become debatable.

Technology has brought information availability to prominence, on which Situational Awareness (SA) is dependent. Superiority in information processing, in an offensive and defensive mode, is the best way to ensure that one's own SA remains superior to that of the adversary. Information warfare and 'information in warfare' have already reached revolutionary implications for military planning and operations. In recent times, however, there are many commercial assets, available off the shelf, to anyone willing to pay the cost; this makes it extremely difficult to maintain the necessary information superiority over the adversary. The requirement, hence, would be to rely increasingly on flexible and affordable space-based assets for reactive surveillance and information dissemination.

Space is, perhaps, the most difficult dimension for non-state actors and smaller forces to gain access to, because of the high costs and technological advancements. The use of space, hence, will provide the necessary edge that is so essential in information management to ensure SA to own and friendly forces. Under certain conditions, the High-Altitude-Long-Endurance (HALE) unmanned aerial vehicle is proving itself as an alternative to the requirement of continuous surveillance and assured communications from space. In communications, the lack of bandwidth is another challenge to the military forces that is likely to continue for some time to come; the availability of a dedicated bandwidth, exclusive for the use of military forces is a viable option to ensure superior SA.

It is a proven fact that air superiority is an essential condition for the success of any campaign in any of the three dimensions. Control of the

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third dimension can be challenged by asymmetric attacks on the support infrastructure in a manner to make air power unavailable for a speedy response; the attacks can be directed against the launch bases, supply lines, or against the air power assets themselves. The challenge, therefore, is to keep all assets secure against attacks: this need not necessarily be with conventional weapons—they can be nuclear, biological, chemical or cyber. The complexities of keeping the assets secure are further compounded by the fact that non-state adversaries and other smaller forces can easily make the employment of air power difficult through asymmetric operations. This vulnerability, hence, needs a constant vigil to give an assurance of achieving air superiority.

DO WE NEED A DOCTRINAL CHANGE?

This question can be answered by asking another question. If after the envisaged change in the roles of air power vis-à-vis the future security challenges, which are based on certain assumptions, can we continue without a doctrinal shift? Air power characteristics will continue to evolve in a comprehensive manner by combining two or more traditional roles or characteristics. Since the characteristics would then envelop a larger spectrum in the effects that they could create, their applicability would also increase. For an appraisal of the qualities that make the basic contribution of air power so significant in modern warfare, there is, therefore, a definite need to have a second look at the current doctrine, even if it is in a non-specific approach.

In any campaign, the primary contribution of air power has always been control of the air and support to the ground forces, whenever called for. A change, however, has taken place and will continue, as technology leaves an indelible impact on air power operations, especially in the refinement of precision strike capabilities. Precision contributes directly to the achievement of the desired effect with high probability. Combined with reach and speed and the capacity of air power for launching concurrent operations due to a three-dimensional perspective, the die-hard advocates of 'conventional' air power have to, therefore, also accept the need of a doctrinal shift.

With a change in the thinking about utilisation of air power, the overall war-fighting machinery would also have to undergo a doctrinal change. This would have to be at the highest level and perforce filter down to the lowest tactical level and may even have an effect on the basics of application of force. These changes would need to be carefully tracked for a meaningful interpretation and the general benefit of the entire force.

CONCLUSION

The nature of war has been changing. The transformation is likely to continue in fundamental ways, largely due to the effects of technological innovations and developments. However, the foundations and principles for the use of combat forces are not likely to change dramatically. More than normal focus on the so-called Fourth Generation Warfare, or asymmetric warfare, has tended to deemphasise the challenges and threats in traditional force-on-force warfare. Notwithstanding, effective application of all, or a combination of, air power capabilities to operations, will not only constrict the adversary's freedom of manoeuvre, but also degrade his combat potential in an exponential manner.

Air power will be the forerunner of force projection capabilities because of its inherent characteristics that have been technologically enhanced. Despite its limitations and the challenges it is likely to face, when viewed with a holistic perspective, it provides a cost-effective option in almost all situations, provided it is employed correctly, and with understanding.

In a future that is uncertain, one that will see increasing political intervention and legal constraints on the application of force, air power will be the viable and readily available option for the imposition of international will on errant, inflexible and non-compliant nations or groups. Continuing developments in technology will assist this evolution at a pace that, at times, may leave behind doctrinal and strategic thinking. Air power is essentially a technology-intensive and technology-driven capability and, hence, its sustenance will depend on the levels of technology-absorption within a nation. This, in turn, would depend upon the education and industry that a nation possesses.

The future is uncertain and will remain so, for some time to come. For a military force to be effective, it is necessary to comprehend the emerging nature of war and all the political, legal and resource constraints. The threat scenario that would have to be faced is complex, with no easy solutions. Air power has the capability of responding to such complex situations only if it is carefully balanced and adequate resources are made available. The leadership, military and political, that will deliver the desired output has to be aware to be effective and its importance cannot but be emphasised.

DEFENCE BEYOND DESIGN: TOWARDS A NEW NUCLEAR PARADIGM

SITAKANTA MISHRA

The realm of 'nuclear technology' is amongst the most beguiling subjects of the human civilisation for the fact that words like 'atom' and 'radiation' have engendered both lasting fear as well as abounding hope in many. However, what is less certain is *why* it has entrenched such strong group (pro- and anti-nuclear) alignments.¹ Fingers point towards the 'risk' associated with nuclear technology; but *risk perception* is a "combination of facts and fears, intellect and instinct, reason and gut reaction"; it is a 'subjective', not a purely rational and fact-based process.² Therefore, any hasty response to a perceived risk may pose a danger by itself. Moreover, risk is calculated by multiplying the probability of the consequence by the severity of the consequence.³ On the other hand, the unrealised lofty goal of abundant energy through the nuclear route and a few nuclear disasters have given rise to public scepticism. The scientific community, however, reiterates that the fear of nuclear power is out of proportion to the actual risks involved.

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1. James Conca, "Why Are We So Afraid of Nuclear?", <http://www.forbes.com/sites/jamesconca/2013/03/24/imagine-theres-no-fear/>, March 24, 2013.
2. David Ropeik, "Why Are We Afraid of Nuclear Power", <http://www.project-syndicate.org/commentary/why-are-we-afraid-of-nuclear-power->, October 15, 2010.
3. Elizabeth Landau, "Why Does 'Nuclear' Scare Us So Much?", <http://edition.cnn.com/2011/HEALTH/03/28/nuclear.fears.psychology/>

The need is to deconstruct the real and assumed threats (accident, misuse, and terror) to demystify the ‘nuclear fear’ by understanding how perceptions arise and are passed down generations in the complex system of society.

With proper management techniques and safety culture, nuclear energy can be a viable source of energy security.

The debate between the nuclear proponents and opponents has degenerated into mutual barrages of scientific facts and assumptions as each side manoeuvres in search of an impregnable position, giving rise to a competing culture of reality.⁴ The tendency is to interpret reality through the lens of present knowledge and awareness largely conditioned by inclinations and convictions culminating in an imbroglio. This study, premised on the assumption that *nuclear energy cannot be discarded*, argues for a better management paradigm by venturing beyond the ‘design basis threats’ and responses processes.

For various reasons, there has been a lot of scare-mongering around nuclear technology that has inspired an unusual amount of controversy. The need is to deconstruct the real and assumed threats (accident, misuse, and terror) to demystify the ‘nuclear fear’ by understanding how perceptions arise and are passed down generations in the complex system of society. Professor Richard Dawkins in his famous book *The God Delusion* (2006) explains that "memes" as sentient traits compete and pass along to subsequent generations as vigorously as physical traits expressed through biological genes.⁵ Fear of radiation, thereby the nuclear energy technology, is an obvious candidate for incompatible memes like those of different religions.⁶ On the other hand, scholars, sociologists and policy-makers must take the onus to expose how the ‘power of propaganda’ and ‘vested interest’ has deliberately misrepresented nuclear technology. This study views that

4. Gary L. Downey, "Risk Culture: The American Conflict Over Nuclear Power", *Cultural Anthropology*, vol. 1, no. 4, November 1986, pp. 388-412.

5. Richard Dawkins, *The God Delusion* (Bantam Press, 2006); "Why Are We So Afraid of Nuclear?", <http://www.forbes.com/sites/jamesconca/2013/03/24/imagine-theres-no-fear/>

6. Conca, n. 1.

the *law of entropy*⁷ is on their side because it is easier to make a mess than to clean it up. Instead of simplifying the complex, the spawning of heterogeneous meanings around nuclear energy in unpredictable ways has manifested in a kind of “atomic schizophrenia” in the society.⁸ To address this, a fundamental change in attitudes towards nuclear energy is warranted by an out-of-the-box paradigm concerning nuclear safety and security at this juncture.

A fundamental change in attitudes towards nuclear energy is warranted by an out-of-the-box paradigm concerning nuclear safety and security at this juncture.

THE CURRENT STATE OF AFFAIRS

Undoubtedly, the nuclear energy discourse stands at a crossroads today. The issues of security, safety, fuel cycle, non-proliferation, and economic impediments remain, and may become more troublesome, particularly if out-of-the-box innovations to the current nuclear paradigm are not devised and practised within the next few years. The World Nuclear Industry Status Report 2013 reveals that the world’s power generation has declined steadily from a historic peak of 17 percent in 1993 to about 10 percent in 2012. Also, ten years ago, particularly in Europe, the construction cost of Generation III nuclear reactors was estimated at around \$1,000/Kilo Watts (KW) that allowed the nuclear industry to claim that nuclear power is competitive. By 2012-13, the typical cost estimate for Generation III+ designs was of the order of \$7,000/KW.⁹

Unless a breakthrough is achieved, the share of nuclear energy in comparison to renewable will continue to decrease in the coming years. Then, is this the ‘end of nuclear power’? Simply calling for this would be irresponsible. The pace of nuclear energy production and projects in recent

7. *The law of entropy* is the second law of thermodynamics which states that the entropy of an isolated system never decreases, because isolated systems spontaneously evolve toward thermodynamic equilibrium.

8. Raminder Kaur, *Atomic Mumbai* (New Delhi: Routledge, 2013), p. 58. Kaur describes “atomic schizophrenia” as a state reflecting the “split in the mind” specifically to describe how the constructive and destructive possibilities of the new atomic power saturated people’s minds.

9. Mycle Schneider, “The World Nuclear Industry Status Report 2013”, July 2013.

years has gone down but is not completely out. A focussed observation on the post-Fukushima nuclear energy drive worldwide would reveal that most countries with, or planning, nuclear programmes, opted for a slowdown rather than complete cessation. Nuclear energy continues to represent a major energy source – supplying about 11 percent of the world’s electricity and 21 percent in the Organisation of Economic Cooperation and Development (OECD) countries.¹⁰ At the end of 2010, the total global capacity fell from 375 Giga Watts (GW) to 369 GW at the end of 2011, but has since gradually risen to 374.3 GW by January 2014.¹¹ The year 2014 started with 435 operable reactors, along with 71 reactors under construction, totalling around 75 GWe – the highest number since 1989.¹²

The Fukushima disaster has made everybody conscious about proceeding on the basis of the lessons learned. Today, though strong pockets of optimism are visible in Asia, America, the UK and Russia, the opposite is true when one looks at Germany, Switzerland, and Spain. Many countries in different parts of the world, for example, Australia, Austria, Denmark, Greece, Ireland, Italy, Latvia, Lichtenstein, Luxembourg, Malta, Portugal, Israel, Malaysia, New Zealand, and Norway remain opposed to nuclear power.¹³ Also, it will take more time to rebuild trust in Japan. Therefore, there are still challenges ahead for the nuclear industry; nevertheless, “the nuclear energy perspectives remain solid with the signs of bouncing back in the near future”.¹⁴ Over the past two years, an upward trend can be seen considering the number of new reactors. Having dropped from 16 in 2010 to four in 2011¹⁵, reactor construction starts increased to six in 2012 and reached 10 in 2013.¹⁶ Some other significant developments include the start

10. “World Energy Needs and Nuclear Power”, World Nuclear Association, April 2014

11. Jong Kyun Park, Director, Division of Nuclear Power, IAEA.

12. “Steady State for Nuclear in 2013”, *World Nuclear News*, January 7, 2014.

13. “Nuclear Power Phase-out”, http://en.wikipedia.org/wiki/Nuclear_power_phase-out

14. Tarik Choho, chief commercial executive officer, AREVA, “Has the Nuclear Industry Emerged from the Cloud of Fukushima?”, *Power Engineering International*, January 27, 2014.

15. Director General, IAEA, “International Status and Prospects for Nuclear Power 2012”, GOV/INF/2012/12-GC(56)/INF/6, August 15, 2012, p. 1.

16. Mycle Schneider and Antony Froggatt, “The World Nuclear Industry Status Report 2013”, <http://www.worldnuclearreport.org/IMG/pdf/20130716msc-worldnuclearreport2013-lr-v4.pdf>, p. 8.

of reactor construction in the USA after a gap of three and a half decades, start of the construction of the first reactor in Belarus, a country heavily impacted by the fallout from the Chernobyl accident in 1986, and the start of work on Barakah-2 in the United Arab Emirates (UAE). More importantly, Asia remains the focus of expansion and of near and long-term growth prospects. In fact, out of the 71 reactors under construction, 47 are in Asia;¹⁷ similarly, 43 of the last 53 new reactors to be connected to the grid since 2000 are also in Asia.¹⁸ In Europe,¹⁹ many countries are either on the expansion mode or have such plans.

The case of Germany is a “dramatic exception”.²⁰ Nobody is bothered to enquire today how Germany is suffering from an acute power shortage after its decision to phase out its nuclear power projects. One estimate suggests that by 2020, Germany will have produced an extra 300 million tonnes of CO₂ (Carbon Dioxide) as a result of its nuclear closure: equivalent to almost all the savings that will be made in the 27 European Union (EU) member states.²¹ Undoubtedly, a shift in thinking in some countries can be perceived in the post-Fukushima years, but many others are unswervingly pursuing their expansion plans. Despite setbacks in Germany, Switzerland and temporarily in Japan, nuclear energy projects are progressing well in many countries like Russia, France, Finland, China and India. Over 45 countries are actively considering embarking on nuclear power programmes.²²

However, the entire blame for the relatively ominous state of the nuclear energy market today cannot be put only on public cynicism and the anti-nuclear coterie. There still exist many unaddressed concerns that the nuclear

17. n.15, p.4

18. Jong Kyun Park, Director, Division of Nuclear Power, IAEA, “Has The Nuclear Industry Emerged from the Cloud of Fukushima?”, *Power Engineering International*, January 27, 2014.

19. “Nuclear Power in the World Today”, <http://www.world-nuclear.org/info/Current-and-Future-Generation/Nuclear-Power-in-the-World-Today/>, April 2014.

20. John B Ritch, “Will The Nuclear Power Industry Regain Public Trust?”, <http://forbesindia.com/article/biggest-questions-of-2012/will-the-nuclear-power-industry-regain-public-trust/31592/1#ixzz2bv1ot0KC>, December 29, 2011.

21. George Monbiot, “Out of Steam”, *The Guardian*, February 5, 2013.

22. World Nuclear Association, “Emerging Nuclear Energy Countries”, <http://www.world-nuclear.org/info/Country-Profiles/Others/Emerging-Nuclear-Energy-Countries/>

establishment requires to attend to promptly. One such example is the cost of nuclear energy. How cheap can nuclear energy be and how quickly can it reach the rural masses? Is not the notion that nuclear power would be “too cheap to meter” a misnomer?

The future of nuclear energy lies in addressing concerns on the basis of an evaluation of the current strengths and weaknesses in the nuclear establishment, governance and public perception. How effectively, in what time span, and in what manner, the concerns are addressed will largely determine the fate of nuclear energy in the world, and more so in India. This is not to dismiss the global or India’s nuclear achievements over the years; but one needs to accept the fact that this is not the whole story. There is always scope for improvement and capacity building.

OUT-OF-THE-BOX PARADIGM

The nuclear safety-security discourse is mainly based on the principle of ‘defence-in-depth’ and ‘defence-by-design’ where high level safety features are built-in during the design phase of the plant and also utmost care is ensured for the safe-keeping of materials and technology from the cradle to the grave. The high level built-in safety features mainly include high-quality construction, fail-safe design, engineered equipment and procedures to manage accidents, and provide robust containment, emergency support, etc. However, can a zero accident/incident guarantee be given? Of course, the postulated threat scenario is conservatively considered while embedding safety features into the plant but “defence can deteriorate as time passes”. Plant upgradations and modifications are undertaken at successive intervals to meet the new challenges and ageing of the plant.

One serious concern is how to manage the ‘unimaginable risks’. Literally, there can be no absolute safety or security. Then, how much safety is safe enough? A more robust defence system (safety-security) to enhance the capability to deal with all risks and to remain prepared to effectively deal with unforeseen hazards is the prescription of this study. Based on a more structured consideration looking far beyond the current concerns and preparedness, the *defence beyond design* paradigm constitutes 10 conceptual

aspects, which are overlapping in their explanation and open-ended in their scope. These are given below:

Understanding Beyond Ideology

The debate over the nuclear “energy technology options and development pathways” is seriously marred by *perceptions of risk*. Rival explanations are advanced to explain the question, “Why are products and practices once thought to be safe, perceived increasingly as dangerous”.²³ The ideological or cultural factors seem to have a stronger impact on individual/group risk perceptions²⁴ as they themselves ‘choose what to fear’, primarily conditioned by their inclinations and prejudices nurtured over generations.

While some are critical about nuclear energy as hazardous, many others find it a viable energy security option. The divide is visible across political lines in many countries and political predilection guides this – the right is instinctively pro-nuclear and the left is against it.²⁵ Each group advances its argument with sufficient logic and rejects information that is contrary to its viewpoints. In turn, “the conditional effects of ideology” impact the public risk attitudes, and also “the long- and short-term dynamics of belief updating after the occurrence of major accidents” influence the degree of public acceptance of nuclear technology.²⁶ How do nuclear technology risk concerns vary for given individuals?

Evaluating the Indian nuclear energy discourse and risk debate within the left-right divide would not be prudent as it has not evolved strictly along this line. The resistance to nuclear energy projects in India is concentrated in pockets and led by only a few anti-nuclear ideologues and groups. The role of the respective state government is found to be crucial in managing the controversy. In addition, the global anti-nuclear

23. Aaron Wildavsky and Karl Dake, “Theories of Risk Perception: Who Fears What and Why?”, *Deadalus*, vol. 119, no. 4, Risk (Fall, 1990), pp. 41-42.

24. Susanne Rippl, “Cultural Theory and Risk Perception: A Proposal for a Better Measurement”, *Journal of Risk Research*, vol. 5, no. 2, 2002, pp. 147-165.

25. Polly Toynbee, “For the Right, Nuclear Power is the Answer”, *The Guardian*, July 20, 2006.

26. Fabio Franchino, “The Social Bases to Nuclear Energy Policies in Europe: Ideology, Proximity, Belief Updating and Attitudes to Risk”, http://www.socpol.unimi.it/docenti/franchino/documenti/File/Nuclear_energy_Franchino.pdf, p. 1.

As is the case with all forms of energy, nuclear energy certainly involves risk. The question is: how much risk is involved? How can benefit be gained? And is the risk worth taking, comparing the risk and benefit involved?

lobby and Non-Governmental Organisations (NGOs) are reported to have provided support to the local movements. Therefore, the politico-ideological angle of the Indian public's risk perception needs to be examined to devise measures to foster popular thinking beyond the political/ideological spectrum on the new nuclear projects. In India, it needs to be vigorously propagated that "energy has no ideology or political colour"²⁷ and, to a large extent, that nuclear energy is relatively a benign option to mitigate the energy crunch and climate change concerns. As is the case with all forms of energy, nuclear energy certainly involves risk. The question is: how much risk is involved? How can benefit be gained? And is the risk worth taking, comparing the risk and benefit involved? In all these, 'risk perceptions', individual traits, and group mobilisation play important roles.

Of course, one may wonder if the belief and assessment of the scientific community that nuclear energy as safe is not coloured by ideology and economic self-interest. First, in the case of any accident, it is the workers, scientists and their families residing within the plant premises who would be affected first. Second, the language and manner in which the information and views of the scientific community on nuclear energy are communicated to the public by the scientists themselves matter most in eradicating public misperceptions. Third, the scientific community as a whole does not communicate with the general public—whatever information comes out from the elite scientists, get distorted by the media, leading to erroneous public perceptions. Also, a few nuclear disasters have really made any alteration of people's perceptions about a risk difficult; rather, this has resulted in closed-mindedness.²⁸ The need of the hour, therefore, is to

27. "Interview With The Group: Yes To Nuclear", <http://www.eurasia-rivista.org/interview-with-the-group-yes-to-nuclear/16878/>

28. Matthew C. Nisbet, "Nuclear Fear, Science, and Ideology", <http://bigthink.com/age-of-engagement/nuclear-fear-science-and-ideology>, April 3, 2011.

break out of this vicious circle by moving beyond ideological politics and prejudices to framing technology options and development pathways. A comprehensive nuclear information management system would help repose greater confidence in nuclear energy technology.

Information Beyond Facts

Management of nuclear information is crucial in nurturing greater confidence in nuclear energy and winning public support for new projects. However, just flooding of mere facts and figures about the issue will not help. Nuclear information management

must take into account the targeted population, specific concerns, and mode of communication within a specific timeframe. Transparency in the functioning and decision-making of the establishment is a major aspect that generates confidence among the public. Information that can be shared by the operator, the regulator and the government must be carefully calibrated so that it does not unnecessarily cause panic. It must be kept in mind that the local inhabitants are emotionally attached to their land and for them, it is an intense matter. They perceive the decision about location of a nuclear energy project as an imposition on them which will root them out from their homeland. Therefore, the attitude of the officials or authorities while dealing with the local population matters immensely.

The challenge is how to explain to the general audience in simple language about the criticality of nuclear issues. The explanation that the facilities are protected in accordance with a design basis threat is too esoteric for non-experts.²⁹ The Nuclear Security Governance Experts Group (2013) recommends a completely innovative approach to convey information to the people at

Transparency in the functioning and decision-making of the establishment is a major aspect that generates confidence among the public. Information that can be shared by the operator, the regulator and the government must be carefully calibrated so that it does not unnecessarily cause panic.

29. NSGEG, "Promoting Greater Transparency for Effective Nuclear Security", February 2013, <http://www.stanleyfoundation.org/nsgeg/NSGEGLondonReport022013.pdf>, p. 10.

the local, state and national levels, keeping in mind their differing levels of knowledge and concerns, roles and responsibilities. An important step, it emphasises, is to improve the media's understanding of nuclear issues through frequent engagement with them and their inclusion in nuclear security exercises.

The impact that the nuclear project would have on the lives of the local population is the most intriguing aspect that allows speculations to emerge. Except for energy production, what are the other benefits or how they would enrich the locals' lives are the less catered for issues. Showcasing of the benefits accrued by the people in completed project sites elsewhere would help to motivate the locals. How promptly the grievances of the project-induced-displaced-people are addressed is crucial to win their hearts. A kind of 'nuclear nationalism' needs to be infused among the public to help them weigh the larger national interest along with their long-term personal benefits. This is possible only by providing them information rather than just nuclear facts, with a personal, community and national touch. They should be made aware that their support is a crucial part of the nation-building process. There is a need to reduce the communication gap between the community living adjacent to the plant and the scientific community living within the premises, to remove all apprehensions.

Responsibility Beyond Rules

The governance structure of the current nuclear safety and security system needs to be more comprehensive, integrated and transparent. Of course, "there is the challenge of governance. A country's ability to run a nuclear power programme safely and securely depends on its capacity to successfully and sustainably plan, build, and manage a large and complex facility and its associated activities."³⁰ Today, the business world enjoys much less credibility and the scientific establishment is far less influential than it once was.³¹ Therefore, to restore social faith and confidence in nuclear technology, emphasis on performance and accountability beyond

30. Justin Alger and Trevor Findlay, "Strengthening Global Nuclear Governance", *Issues in Science and Technology*, Fall 2004, p. 74.

31. Stanley Rothman and S. Robert Lichter, "Elite Ideology and Risk Perception in Nuclear Energy Policy", *American Political Science Review*, vol. 81, no. 2, June 1987.

the written rules and regulations must be undertaken.³² Largely, the current nuclear governance structures have relied on the implementation of more regulations and revisions to meet corporate governance standards. But governance responsibilities extend beyond companies or entities in charge of managing the day-to-day responsibilities. All concerned, both within the establishment and outside, must be made aware of their corporate as well as ethical responsibilities in the national governance of nuclear projects.

Apprehension Beyond Postulation

All nuclear reactors are designed with many safety features, keeping in mind some postulated events (both internal and external) that may occur during its life. Normally, postulated initiating events (anticipated operational occurrences or accident conditions) and the consequential transients are specified during the design phase of the plant to ensure specific safety measures for all possible scenarios.³³ However, unforeseen incidents may occur. For example, Japan was struck by a severe earthquake and tsunami for which its nuclear plants were not prepared. Also, new scientific methods may reveal new threat scenarios that no one ever thought about. Therefore, a comprehensive identification of all possible accident sequences and apprehending threats beyond the established postulation methods must be a part of the process to make the probable events sequences as large as possible. Adequacy of the selection of postulated initiating events would help in mitigating any chance of surprise and uncontrollability.³⁴

Preparedness Beyond Routine

Every nuclear facility is managed by well laid out procedures and guidelines. Routine safety and security functions are strictly adhered to. However, the human factor involved in all these processes is fallible. The

32. NSGEG, "Responsibility Beyond Rules: Leadership for Secure Nuclear Future", http://www.nsggeg.org/NSGEG_Responsibility_Beyond_Rules_2013.pdf, p. 1.

33. IAEA, "Deterministic Safety Analysis for Nuclear Power Plants", *Specific Safety Guide No. SSG-2*, http://www-pub.iaea.org/MTCD/publications/PDF/Pub1428_web.pdf, p. 6.

34. *Ibid.*, p. 41.

Fukushima Investigation Commission revealed that lack of governance and communication among different entities, lack of competencies for those accountable for nuclear security, and lack of clear understanding of accountability and liability among licensees and regulators had culminated in “wilful negligence” by the top management in their response.³⁵ Viewing it as a “man-made” incident, the commission pointed out the complacent mindset of those accountable for nuclear safety. This suggests that routine responsibilities or accountabilities tend to drift towards negligence, for the human factor involved in the process is fallible.

What is expected, therefore, is development of a type of safety-security preparedness culture beyond the mere routine tasks. In this pursuit, a more inclusive nuclear safety-security culture needs to be nurtured at the national level, led by “nuclear security champions” who have extensive knowledge, inter-cultural skills, and are charismatic top-notch problem solvers.³⁶ Their main task would be to come up with practical, tailored solutions to specific problems and generate a broad-based consensus on issues by communicating and coordinating with the national leadership and nuclear security implementers.³⁷

Governance Beyond Regime

The complex formal and informal institutions, mechanisms, relationships, and processes that regulate the nuclear establishment and the nuclear policy discourse constitute the ‘nuclear governance’. In other words, it is the structural-institutional factors or the regime that manages nuclear energy activities. It is characterised as “interpretative” where there is a need to explain how and why specific decisions are arrived at.³⁸ Persuasion and facilitation comprise the key technique of an interpretative approach of governance. This has, in fact, resulted in a state-centric command and

35. The National Diet of Japan, *The Official Report of the Fukushima Accident Independent Investigation Commission*, 2012, http://www.nirs.org/fukushima/naic_report.pdf

36. Santoro David, “Championing Nuclear Security”, Carnegie Endowment, September 10, 2012, p. 2.

37. Ibid.

38. Keith Baker and Gerry Stoker, “Governance and Nuclear Power: Why Governing is Easier Said than Done”, *Political Studies*, 2012, p. 1.

control structure. Nuclear power has remained the exclusive sphere of the state domain and the “responsibility for nuclear safety rests with the state”. This has given rise to the question: why are nuclear projects backed by the state everywhere with heavy investment and subsidies? What is needed, therefore, is “an integrated approach” to develop “an integrated decision-support framework for assessing the sustainability of nuclear power relative to other energy options (fossil fuels and renewables), considering both energy supply and demand”³⁹ by making the citizens the stakeholders.

Under the current practice, the regime imposes responsibility on the operators to run the reactors safely and securely. At times, some issue may arise which is beyond the control of the operators. Even if the alleged operator-regulator nexus requires attention, it must be looked at from beyond the regime structure and function.

Upgradation Beyond Intervals

Realistically, every defence measure is time critical and can deteriorate as time passes. Therefore, routine upgradation of safety-security measures is a normal feature of every nuclear plant. Also the need-basis actions and provisions are strictly adhered to all along. However, the nuclear defence architecture that encompasses safety, security and safeguards, needs to be structured beyond the design-basis threats, taking into account the intricacies of technical interfaces, professional integrity, social psychology, national obligations, and international collaborations.

Analysing the past few nuclear accidents, one can deduce that a lackadaisical attitude or negligence on the part of the operator and regulator led to such situations. For example, as the Japanese Nuclear Accident Independent Investigation Commission concluded, the “Fukushima nuclear power plant accident was the result of collusion between the government, the regulators and Tepco, and the lack of governance by the

39. Adisa Azapagic, “Sustainability Assessment of Nuclear Power: An Integrated Approach”, <http://www.springsustainability.org/>

One must learn from the Japanese Commission findings of “poor communication by the utility and bureaucrats responsible for nuclear safety”, which led the Japanese prime minister to lose trust in them and his resultant attempt to manage the crisis directly with the help of aides and advisers.

said parties”.⁴⁰ The disaster was the result of “a multitude of errors and wilful negligence” by the plant operator. Further, according to the findings of the commission:

What must be admitted – very painfully – is that this was a disaster ‘Made in Japan.’ Its fundamental causes are to be found in the ingrained conventions of Japanese culture: our reflexive obedience; our reluctance to question authority; our devotion to ‘sticking with the programme’; our groupism; and our insularity. ... This conceit was reinforced by the collective mindset of the Japanese bureaucracy, by which the first duty of any

individual bureaucrat is to defend the interests of his organisation.⁴¹

The post-disaster management is the most crucial part of nuclear governance. One must learn from the Japanese Commission findings of “poor communication by the utility and bureaucrats responsible for nuclear safety”, which led the Japanese prime minister to lose trust in them and his resultant attempt to manage the crisis directly with the help of aides and advisers. Such prime ministerial intervention is believed to have worsened the situation. What the report brings out for everyone to learn are the issues of transparency (obligation to disclose) and onus. Views have been expressed to repeal the non-disclosure clauses in Section 18 of the Atomic Energy Act as it is anachronistic

40. David Dalton, “Fukushima Was ‘Man-Made Disaster’ Caused By Wilful Negligence, Report Finds”, 05.07.2012_No152 / News in Brief, <http://www.nucnet.org/all-the-news/2012/07/05/fukushima-was-man-made-disaster-caused-by-wilful-negligence-report-finds>

41. The National Diet of Japan, the Official Report of the Fukushima Nuclear Accident Independent Investigation Commission, 2012, http://www.nirs.org/fukushima/naic_report.pdf, p. 09.

in this age of right to information.⁴² Purely from the point of view of enhancing positive popular perceptions on nuclear safety, such a step may be considered, taking into account the necessity of secrecy in other aspects of the nuclear programme.

Nuclear Beyond Politics

The link between nuclear technology (thereby nuclear energy) and statecraft has been intrinsic since the dawn of the nuclear era. But gradually, it has become an intricate subject of partisan politics or political discourse for various reasons. In a federal political system, especially in a coalition political arrangement like in India, the state governments have a bigger say in new nuclear projects than the Union government. The equation between the state government and the central political leadership determines the smooth advancement of new nuclear projects in countries like India. For example, the All India Anna Dravida Munnetra Kazhagam (AIADMK) government in Tamil Nadu was opposed to the nuclear power plant initially. The Trinamool Congress (TMC) government in West Bengal opposed the proposed nuclear plant in Haripur in East Midnapur. Chief Minister Mamata Banerjee made it clear that she would not allow a single nuclear power plant to be established in the state during her tenure.⁴³ Given this trend, one can assume that nuclear energy projects will increasingly become a matter of Centre-state bargaining as more new projects are in the pipeline in India. This will hamper the pace of the projects and thereby, their cost-effectiveness.

Perceptibly, over the years, the term 'nuclear' has become more politics and psychology than physics. What is needed, therefore, is delinking of the

Perceptibly, over the years, the term 'nuclear' has become more politics and psychology than physics. What is needed, therefore, is delinking of the flawed political connections as this is not a political issue.

42. EAS Sarma, "The Report of the Independent Commission in Japan on Fukushima: Lessons for India", <http://www.dianuke.org/the-report-of-the-independent-commission-in-japan-on-fukushima-lessons-for-india/#sthash.UkkZ8oKu.dpuf>, July 15, 2013.

43. "West Bengal CM Mamata Banerjee Rejects Proposed Haripur Nuclear Project", <http://post.jagran.com/west-bengal-cm-mamata-banerjee-rejects-proposed-haripur-nuclear-project-1313662443#sthash.fD36cy3F.dpuf>, August 18, 2011.

flawed political connections as this is not a political issue. Objections to, and support for, nuclear power should go beyond political partisanship as “the merit of nuclear power lies in the science and, thus, bows to no political or partisan mongering, and especially not to dedicated deniers. It’s important to separate the scientific pros and cons of nuclear energy from the political credentials of those who support or oppose it”.⁴⁴

Curiosity Beyond Apprehension

The word nuclear arouses curiosity, but with apprehension, among many people. Many are just afraid of the unknown – afraid of something they cannot see. Secondly, most people link nuclear technology with nuclear weapons unknowingly. Knowing the basics about how different weapons are from reactors can contribute to mitigating this misunderstanding; for instance, it’s been known for years that, contrary to popular belief, reactors can’t blow up like a bomb. Also, many draw baseless parallels with events that have happened elsewhere for altogether different reasons, to the nuclear issue at home.

There is a flawed connection between environmentalism and nuclear energy, culminating in the boycott of nuclear power. The fundamental fact to be understood is that every power source carries some risks, and the danger from nuclear proliferation mainly exists because of human fallibility, not because of some inherent problem with nuclear energy. People tend to forget that what distinguishes man from the other species is his ability to uncover nature’s secrets, and appraise and harness them, especially the ones that cannot be seen. Man’s great capacity to face unknown challenges, understand them, and use them for his benefit, underpins much of our technological prowess. In fact, the promise of nuclear technology to produce cheap, clean and abundant energy has not been altogether unfulfilled.⁴⁵ If managed properly, it has the potential to take care of all our energy needs.

44. Ashutosh Joglekar, “Top 5 Reasons Why Intelligent Liberals Don’t Like Nuclear Energy”, February 6, 2013, <http://blogs.scientificamerican.com/the-curious-wavefunction/2013/02/06/top-5-reasons-why-intelligent-liberals-dont-like-nuclear-energy/>

45. Ted Nordhaus et al, “How to Make Nuclear Cheap”, Breakthrough Institute, July 2013.

Innovation Beyond Systems in Vogue

Nuclear energy technology is now around six-seven decades old. Science has progressed greatly to examine new types of threats, geological or man-made, to nuclear projects. A review of all nuclear disasters would explain that the major problem is related to melting of the core, and managing the decaying heat and disaster-proof technology. The successive generations of reactors being developed have addressed many of the earlier shortcomings. For example, Generation III+ and Generation IV reactors have many passive safety features and redundancy to control any unforeseen contingency. The Generation III+ reactors are water-cooled and water-moderated thermal and modular designs. Several of this design, like the EPR and VVER-1000, have a core catcher: if the core were to melt down, it would melt into a large structure which spreads out the molten fuel into heat resistant channels to quickly cool and halt reactions. The Generation IV designs that are created by the Generation IV International Forum (GIF) include metal-, salt-, and gas-cooled designs, high temperature reactors, and breeder reactors.⁴⁶ However, more stringent and improved safety, safeguards, and security features, in other words, disaster-resistant technology, in both existing and new nuclear energy plants, would restore the waning confidence in nuclear energy.

Considering the past decades' experience in nuclear reactor designs and siting, a revolutionary out-of-the-box innovation in reactor technology is warranted. The six factors that greatly influence the development and deployment of nuclear reactors are cost-effectiveness, safety, security and non-proliferation features, grid appropriateness, commercialisation roadmap (including constructability and licensability), and management of the fuel cycle.⁴⁷ Revolutionary innovations in all these areas would make nuclear energy projects not only safe and secure but also significantly cheap, thereby increasing public acceptability. The much talked about Molten Salt Reactors (MSRs) are believed to be safer than the light water reactors and

46. Stephen M. Goldberg and Robert Rosner, "Nuclear Reactors: Generation to Generation", American Academy of Arts & Sciences, 2011.

47. *Ibid.*, p. 1.

Efforts are on in many parts of the world to address the thorniest problem associated with nuclear power production – nuclear waste. No country has yet been able to find an amicable solution to permanently address the nuclear waste issue as the life span of nuclear waste is very long.

consume existing nuclear waste, are probably worth pursuing. One special feature of these, as proponents claim, is “If there is a loss of power, or the reactor gets too hot, the plug melts, allowing all the fuel and coolant to fall into an underground chamber full of neutron poisons/absorbers, quickly killing all fission reactions.”⁴⁸ China and the US have been experimenting on this design for several years now and may help the nuclear industry to overcome the persisting shortcomings.

In another initiative, the San Diego based company General Atomics has designed a small size reactor that is claimed to be safer than existing reactors and reduces nuclear waste by 80 percent.⁴⁹ In case of a power failure, it is designed, by the use of ceramics, to shut down and cool off, without the need to continuously pump in coolant. Using helium as a coolant instead of water allows the plant to operate at higher temperatures, and the reactor also incorporates a new gas turbine for producing electricity. The technology is claimed to generate more power from a given amount of heat produced in the reactor core. The idea of building nuclear power stations on floating platforms, much like those used in the offshore oil and gas industry, is viewed as making them safe and secure from an earthquake, tsunami, station blackout or cooling failure. Rosatom is building a floating nuclear power station, the Akademik Lomonosov, a large barge carrying a pair of nuclear reactors capable of together generating up to 70 Mega Watts (MW), due to be completed in 2016.⁵⁰

Efforts are on in many parts of the world to address the thorniest problem associated with nuclear power production – nuclear waste. No country has yet been able to find an amicable solution to permanently address nuclear

48. Nordhaus, n. 45.

49. Kevin Bullis, “A Nuclear Reactor Competitive with Natural Gas”, August 19, 2013, <http://www.technologyreview.com/news/518116/a-nuclear-reactor-competitive-with-natural-gas/>

50. “All at Sea”, *The Economist*, April 26, 2014.

waste issue as the life span of nuclear waste is very long. Innovation is warranted in the field of nuclear waste management with new techniques. The dual fluid reactor concept is a probable one that attempts to address the problem.⁵¹ A group of nuclear physicists in Berlin, who are working on the concept, claims to be able to reduce the life span of nuclear waste from 100,000 years to 300. An article by Fabian Schmidt and Conor Dillon in the *Deutsche Welle* website narrates:

Certainly, innovative research costs a lot and necessitates patience. Additional investment needs to be earmarked and focussed efforts especially to be planned to carry out need-based innovations for the nuclear industry.

The key is swapping nuclear fuel rods for salt mixtures. Liquid salts with heavy nuclei – plutonium chloride or uranium chloride are the examples used by the nuclear physicists in the project – would flow in continuous circles. After burning in the reactor core and producing energy, the liquid is then channelled through an internal treatment plant, where burned components are separated off and the mixture is enriched once more with fresh, long-life radionuclides. It's then sent back through the reactor core for another round of energy production. Those burned components are radioactive. They, too, would need to be stored in a safe location. After 300 to 600 years, though, they would be recycled as valuable metals, with any unused nuclides heading back to the reactor.⁵²

Certainly, innovative research costs a lot and necessitates patience. Additional investment needs to be earmarked and focussed efforts especially to be planned to carry out need-based innovations for the nuclear industry. At best, can India be part of these many global attempts for nuclear industrial innovations?

51. Fabian Schmidt and Conor Dillon, "Can Nuclear Power be Eco-Friendly?", <http://www.dw.de/can-nuclear-power-be-eco-friendly/a-17056028>, September 3, 2013.

52. Ibid.

A VALUE JUDGEMENT

Lastly, this is not to argue that technical fixes can close all the loopholes in the nuclear industry in general. If a value judgement is entertained, the future of nuclear energy depends largely on how promptly we propound and practise an “inclusive” nuclear safety-security definition extending beyond material protection, safety preparedness, and assimilating interrelation of stakeholders, novel initiatives, and all nuclear regimes.⁵³ In other words, transition towards a multi-sector engagement with a holistic understanding of the utility of nuclear energy is the gateway for a vibrant nuclear industry. This would, of course, be a long drawn out endeavour. However, the growth in nuclear energy will continue because, with or without Fukushima, we face the same challenge of energy scarcity.

53. NSGEG, “Improving Nuclear Security Regime Cohesion”, The Stanley Foundation, http://www.stanleyfoundation.org/nsgeg/Improving_Nuclear_Security_Regime_Cohesion.pdf, p. 7.

THE INF TREATY: ITS SUCCESSES, FAILURES AND THE FUTURE

DEBALINA GHOSHAL

Post the Cuban missile crisis, the arms race started to be viewed as a “necessary evil.”¹ A predominant feature of the US-Soviet relationship comprised the efforts made by the two superpowers to indulge in nuclear arms reduction for strategic stability. The Intermediate Range Nuclear Forces (INF) Treaty was one such effort of the arms control measures. On December 8, 1987 President Reagan and General Secretary Gorbachev signed the treaty and agreed to a ‘double global zero’ in which both short range and intermediate range missiles would be eliminated.² This paper aims to study the background of the treaty by briefly tracing the reasons for the signing of the treaty, the obligations of the treaty, the successes of the treaty, its limitations, and the implications of withdrawing from the treaty. A brief look at the North Atlantic Treaty Organisation’s (NATO’s) strategy of flexible response after the implementation of the treaty is also aimed at. It also tries to answer the question of whether the treaty could become a multilateral framework.

REASONS FOR THE INF TREATY TO COME INTO FORCE

One of the most crucial reasons for the INF Treaty to come into force was the

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1. TT Poulouse, *The Future of Nuclear Arms Control* (New Delhi: ABC Publishing House, 1987), p.3.
2. See “Treaty Between The United States of America and the Union of Soviet Socialist Republics on the Elimination of their Intermediate-Range and Shorter-Range Missiles,” <<http://www.state.gov/www/global/arms/treaties/infl.html>>

In fact, this treaty enabled Europe to prevent the Soviet Union from gaining any political advantage from the catastrophic missiles. It also prevented the Soviet Union from coercing Western Europe to accommodate its political and strategic interests.

realisation by both the superpowers that nuclear weapons were catastrophic in nature and that they needed to be eliminated. Gorbachev was keen on denuclearisation of Europe since he believed that any nuclear escalation, even at a limited level, could lead to full scale nuclear war.³ For the United States, on the other hand, it made sense since any kind of nuclear escalation between NATO and the Soviet Union could have resulted in a Soviet retaliation against the United States homeland. Though the INF Treaty was one of its kind, the steps towards arms control measures started in the early stages of the Cold War with the Strategic Arms

Limitation Treaty (SALT) I and SALT II which laid the foundation for the INF Treaty to come into force. Lynn E Davis, an American strategist, observes that SALT II which aimed to “limit the nuclear threat to the United States,” without addressing the nuclear threat to Europe⁴ could have been the reason for the initiation of the INF Treaty, since the Europeans felt left out from the nuclear escalation control measures. NATO’s political will to take tough decisions an arms control measures in Europe and also abide by them, contributed to the INF Treaty. As Richard Haass puts it, “The progress on INF only came after NATO demonstrated its determination to follow through on the December 1979 dual-track decision and deployed enough systems to pose a serious threat to the USSR.”⁵ In fact, this treaty enabled Europe to prevent the Soviet Union from gaining any political advantage from the catastrophic missiles. It also prevented the Soviet Union from coercing Western Europe to accommodate its political and strategic interests. In fact,

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3. Caroline Kennedy, “The Development of Soviet Strategies in Europe,” in Colin McInnes, ed., *Security and Strategy in the New Europe* (United Kingdom: Routledge, 2002).
 4. Lynn E Davis, “Lessons of the INF Treaty,” *Foreign Affairs*, Spring 1988, <<http://www.foreignaffairs.com/articles/43068/lynn-e-davis/lessons-of-the-inf-treaty>>
 5. Richard Haass, “Arms Control Choices,” *Beyond the INF Treaty: Arms, Arms Control, and the Atlantic Alliance* (United States of America: University Press of America, 1988).

the Soviet Union also acknowledged the fact that the French and British nuclear forces were “separate and independent” and that they need not be included in the agreement.⁶

Also, the failure of SALT I to curb the deployment of heavy Intercontinental Ballistic Missiles (ICBMs) since the Soviets refused to agree to include the definition of “light” and “heavy” missiles, led to the success of the INF Treaty. This is because the INF Treaty, in its Article II, provided the specific definitions of certain key terms and also explicitly listed the missiles to be covered under the treaty in Article III, thereby lessening the chances of “circumvention.”⁷ Further, while SALT II prohibited the deployment of “new” missiles, it permitted the US and the Soviet Union to upgrade the old ones.⁸ Hence, the complete elimination of a particular category of missiles not only reduced the problem of verification but also the problem of identification of the category of the missiles (that is, whether the missile is “heavy” or “light” or “new” or “old”).

Under the Reagan Administration, even though the United States clarified that the increasing arms race had less detrimental effects on the US than on the Soviet Union, this might not have been the case. While the Soviets continued with their missile development programme, Washington also had to keep pace with the arms race.⁹ In 1988, in an analysis, Albert Carnesale and Graham Allison argued that by ratifying the INF Treaty, the “democratically controlled Senate can help build a new consensus on the legitimacy of arms control.”¹⁰

Under the Reagan Administration, even though the United States clarified that the increasing arms race had less detrimental effects on the US than on the Soviet Union, this might not have been the case.

6. McInnes, ed., n.3.

7. John B. Barker, “The INF Treaty: A Survivable Document,” *The Christian Science Monitor*, May 19, 1988, <<http://www.csmonitor.com/1988/0519/etreat.html>>

8. Ibid.

9. See Daryl G. Kimball, “Looking Back: The Nuclear Arms Legacy of Ronald Reagan,” *Arms Control Association*, July/August 2004, <http://www.armscontrol.org/act/2004_07-08/Reagan>

10. Albert Carnesale and Graham, “Why Ratifying the INF Treaty Really Matters?” *Christian Science Monitor*, May 3, 1988.

Gorbachev's approach to a "new thinking" on nuclear disarmament was also a major factor that led to the formulation of the INF Treaty.¹¹ Amidst the dire economic stagnation in the USSR, Gorbachev wanted relief from the arms race. In fact, he also wanted the Strategic Arms Reduction Treaty (START) to be implemented before the Reagan Administration left office. Hence, even though in the initial phases he was not willing to accommodate the demands of the United States, later on, he relented by "untying the package" of strategic arms, missile defence and Anti-Ballistic Missiles (ABMs) in February 1987." In 1987, Russia under Gorbachev claimed that it had destroyed the technologically sophisticated missiles called the "Oka" and also gave up other tactical and operational missiles. He also agreed to eliminate the newly deployed SS-23 missiles.¹² Elimination of the Oka invited a lot of criticism from military officials in Moscow since they believed that the missile was below the range of the INF Treaty agreement and that there was no need for the Soviet Union to compromise on it. The Soviets also wanted reduction in conventional forces in Europe. It could be that Gorbachev saw the INF Treaty as a landmark treaty to commence negotiating on reduction in not only nuclear weapons but also conventional ones.¹³

There is little doubt that the SS-20 missiles of the erstwhile Soviet Union were one of the major reasons for the INF Treaty to come into force. Their ability to carry multiple nuclear warheads and to evade a ballistic missile defence system strengthened their first-strike capability. At the same time, their highly mobile launch platforms made them survivable and thereby, strengthened their second strike capability too. Even though the Soviet Union assured NATO and the United States that the missile would not be used as a first-strike weapon, the fact that it could be used even if it was for retaliation made NATO and the United States apprehensive. It could be that the ability of the missile to survive the enemy's first strike made the

11. "1987: Superpowers to Reverse Arms Race," *BBC On This Day*, <http://news.bbc.co.uk/onthisday/hi/dates/stories/december/8/newsid_3283000/3283817.stm>

12. "The INF Treaty and the Washington Summit: 20 Years Later," *The National Security Archive*, December 10, 2007, <<http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB238/>>

13. The above inference is drawn from *Ibid*.

United States and NATO realise that they might not be able to completely launch a disarming first-strike. Moreover, for the United States, their Lance nuclear missiles which were deployed in Western Europe, were ageing and also were not capable of reaching Soviet targets from launch sites in Europe and, hence, “did not accomplish the same strategic objectives intended in deployment on the INF missiles.”¹⁴

The concept of Mutual Assured Destruction (MAD) for the United States and the Soviet Union on which nuclear deterrence relied then was based on intercontinental ballistic missiles. In fact, as William Watson of Western Michigan University had put it, “Under the threat of intercontinental MAD, the number of divisions the Soviets had in the European theatre was irrelevant,¹⁵ since ICBMs could be used as the great equalizer of the 20th century.”¹⁶ Hence, missiles in the 500-5,500 km range category were being viewed as destabilising for the security of the United States, the NATO countries and the Soviet Union.

Further, with this, the approval of NATO to base the US Pershing missiles in West Germany in response to the Soviet SS-20s could have led the Soviet Union to agree to make the INF Treaty a reality. The United States expected the Soviet Union to remove the SS-20 threat under the strategy called the “Zero Option.”

It cannot be eschewed that the Soviet Union achieving a rough strategic parity in the nuclear arms race with the United States during the 1970s could be a reason why the United States was interested in the INF Treaty coming into force.¹⁷

14. Stanley R. Sloan, *NATO, the European Union, and the Atlantic Community: The Transatlantic Bargain Challenged* (United States of America: Rowman & Littlefield Publishers, Inc., 2005.)

15. The development of ICBMs reduced the reliance of both the superpowers on deploying their missile forces near the target since the ICBMs could reach any target from the homeland itself.

16. William D. Watson, “Trust, but Verify: Reagan, Gorbachev, and the INF Treaty,” *The Hilltop Review*, vol. 5, issue 1, Fall 2011, <<http://scholarworks.wmich.edu/cgi/viewcontent.cgi?article=1045&context=hilltopreview>>

17. “Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-range and Short-range Missiles (INF Treaty),” *NTI*, <<http://www.nti.org/treaties-and-regimes/treaty-between-the-united-states-of-america-and-the-union-of-soviet-socialist-republics-on-the-elimination-of-their-intermediate-range-and-shorter-range-missiles/>>

OBLIGATIONS UNDER THE INF TREATY

The treaty obligated parties to eliminate ground launched short range to intermediate range nuclear capable ballistic and cruise missiles ranging from 500 km to 5,500 km. It also demanded that the parties eliminate support structures and equipment of categories which was necessary for these missiles and their launchers as listed in the Memorandum of Understanding.¹⁸ The treaty demanded that intermediate range nuclear forces be “dismantled” and “scrapped.” However, the United States added that these missiles could be “converted” into missiles which would remain outside the purview of the treaty.¹⁹ They also maintained that the Ground Launched Cruise Missiles (GLCMs) which were being eliminated could be redeployed as ship-based cruise missiles. However, the Soviet Union did not agree to the idea of redeploying those nuclear forces which were meant to be dismantled and scrapped. Therefore, it did not make any sense for the United States to proceed further with plans of redeploying those nuclear forces which were to be scrapped.

Though in the first instance, Gorbachev demanded limits on the Strategic Defence Initiative (SDI) development as a prerequisite to the INF Treaty, he later dropped firmness on this issue.²⁰ The treaty also included a “remarkable and extensive” verification process as well as the inspecting and monitoring at “any time and any place” proposal.²¹ This proposal was accepted by both the Soviet Union and the United States. Since the treaty dealt with the complete elimination of a particular class of missiles, rather than just their reduction, the verification task became easier.²²

SUCCESS OF THE TREATY

The INF Treaty was successful in many ways. Firstly, it had one of the most

18. Ibid.

19. “Soviet-American Talks in 1987,” *Disarmament and Security* (Moscow: Novosti Press Agency Limited, 1988).

20. Ronald Reagan, *An American Life: The Autobiography* (United States of America: Simon and Schuster Inc., 1990).

21. Carnesale and Graham, n.10.

22. John Russell, “On-Site Inspections Under the INF Treaty: A Post Mortem,” *Vertic Briefing Paper*, 01/02, August 2001, <http://www.vertic.org/media/Archived_Publications/Briefing_Papers/Briefing_Paper_01_2.pdf>

“stringent verification provisions in the history of arms control, including extensive data exchanges, on-site inspections and resident inspectors at a key missile facility in each country. It also prohibited interference with national technical means of verification.”²³ Secondly, the destruction of INF missiles “removed an entire category of nuclear weapons which might have been used early and preemptively in an East-West armed conflict because of their precision, penetrability and range—shorter than strategic nuclear delivery vehicles—as well as vulnerability.”²⁴ Thirdly, it excluded the possibility that such missiles would be equipped with conventional or chemical weapons since the treaty banned any kind of ground-based nuclear missiles of ranges between 500-5,500 km.²⁵ Fourthly, until the INF Treaty came into force, such agreements had only sought to put a ceiling on the development of nuclear weapons or their qualitative development. Lastly, this treaty became a “symbol of the new trust developing in the US-Soviet relations” and also paved the way for further arms reduction.²⁶

LIMITATIONS OF THE TREATY

The treaty comprises the Cold War heritage which failed to have a lower limit on missile range during flight tests, since during the Cold War, “parties were mostly concerned about the *maximum* capability of weapon systems, be it range or the number of warheads that could be placed on delivery vehicles.”²⁷ When the treaty was being implemented, a retired military chief of NATO, Gen Bernard Rogers had stated that “there should be no reductions in strategic weapons without agreement to reduce conventional

23. White House Statement on the First Anniversary of the Intermediate-Range Nuclear Forces Treaty,” <<http://www.reagan.utexas.edu/archives/speeches/1988/120888d.htm>>, December 8, 1988.

However, it must be noted that the verification task was not easy in the initial stages. While the Soviet Union suggested the reduction on equal percentage basis, the United States, on the other hand, proposed equalising the number of warheads.

24. Jozef Goldblat, *Arms Control: The New Guide to Negotiations and Agreements* (Sweden: Sage Publications, 2002).

25. Ibid.

26. n. 12.

27. As given by Nikolai Sokov and Miles A. Pomper, “Is Russia Violating the INF Treaty,?” *The National Interest*, February 11, 2014, <<http://nationalinterest.org/commentary/russia-violating-the-inf-treaty-9859>>

Both the United States and Russia have time and again accused each other of violating the treaty.

arms in Europe.” For the United States then, as argued by former President Nixon and Henry Kissinger, “The Soviet cuts do not reduce, in any significant manner, the Soviet capacity to attack Europe with nuclear weapons and that they increase the conventional threat.” They also identified threats from long range weapons from the Soviet Union which could hit Europe.²⁸ But as William Watson had put it, “The fatal flaw in the Zero Option as a basis for negotiations was that it was not negotiable. It was absurd to expect the Soviets to dismantle the existing force of 1,100 warheads, which they had already put into the field at the cost of billions of rubles in exchange for a promise from the United States to not deploy a missile force that had not yet begun to be built.”²⁹

Also according to Jonathan Dean, an American arms control negotiator, “The main problem raised by the INF agreement is neither a military nor an East-West one. It is a West-West one of dealing with the damage done to the confidence of an important minority of Western Europeans in the reliability of the US help in a crisis with the Soviet Union.”³⁰

In 2007, the Russian Defence Minister, Sergei Ivanov had clearly described the treaty as “Cold War vestige” and said that it was an “outdated agreement” which favoured the United States during the Cold War.³¹ Both the United States and Russia have time and again accused each other of violating the treaty. In 2000, the Russians had raised concerns over the US “Hera” missile which, they reportedly claimed, was violating the INF Treaty.³² The missile

28. Bryan Brumley, “Critics Say INF Treaty Will Expose Western Europe To Soviet Tank Attack With AM-Summit BJT,” *Associated Press*, October 31, 1987, <<http://www.apnewsarchive.com/1987/Critics-Say-INF-Treaty-Will-Expose-Western-Europe-to-Soviet-Tank-Attack-With-AM-Summit-Bjt/id-2150bb9b3d176056abb4b0a6f16e9d05>>

29. Watson, n.16. <<http://scholarworks.wmich.edu/cgi/viewcontent.cgi?article=1045&context=hilltopreview>>

30. Stephen A. Garret, “NATO Deterrence and Defense After The INF Treaty,” *Naval Post Graduate School*, June 21, 1989.

31. Fred Weir, “Shades of the Cold War? US Eyes Russia on Arms-Treaty Violations,” *Christian Science Monitor*, January 31, 2014, <<http://www.csmonitor.com/World/Security-Watch/2014/0131/Shades-of-the-cold-war-US-eyes-Russia-on-arms-treaty-violations>>

32. “Agreement to End INF Inspections Signed,” *Arms Control Association*, January-February 2001, <<https://www.armscontrol.org/print/2886>>

was being used by the US as a target for their theatre missile defence tests. Russia urged the United States to destroy the missile since it was “concerned by the continuation of the testing of the Hera in the United States in the framework of developing a non-strategic missile defence system.”³³ As claimed by the Russians, the Hera missile in the US arsenal was a violation of Article VI of the INF Treaty. The Russian Defence Ministry was also concerned about the modernisation programme of the Minuteman III missiles.

The Russians feared that the United States “could considerably improve the capabilities of the Hera” to increase the range of the missile from 1,000 km to 5,000 km by using Minuteman III stages which were retired”.³⁴ Reports suggest that the US Hera missile “not only plays the role of a target, but is basically tested in the same mode as ground launched intermediate range ballistic missiles, a means of delivering weapons of mass destruction.”³⁵

The United States, on the other hand, reiterated that the use of the Hera booster system was in full compliance with its obligations under the treaty. Washington claimed that the treaty permits the use of “booster systems” as given in Article VII of the treaty.³⁶ The United States also justified its testing of Hera missiles on the grounds that Article XII of the treaty permits both parties to use existing missile stages for scientific purposes.³⁷

In fact, the United States is being accused of providing allocations to Israel in its budgets, regardless of budgetary constraints, to encourage Tel Aviv to develop medium range missiles for the US. Recent reports of 2013

As claimed by the Russians, the Hera missile in the US arsenal was a violation of Article VI of the INF Treaty. The Russian Defence Ministry was also concerned about the modernisation programme of the Minuteman III missiles.

33. Gennady Khromov, “Russia Urges US to End ‘Hera’ Ballistic Missile Development,” Federation of American Scientists, November 16, 2000, <<http://www.fas.org/news/russia/2000/russia-001116.htm>>

34. n.17.

35. “The Use of ‘Hera’ Missile Violates the INF Treaty,” Centre for Arms Control, Energy and Environmental Studies, November 20, 2000, <<http://www.armscontrol.ru/start/exclusive/gkk1120.htm>>

36. Ibid.

37. n.17.

suggested that the Silver Sparrow modification of the Israeli Encore missile is a “medium-range aero-ballistic missile” which would be delivered at a distance of 2,500-3,000 km.³⁸ The US is also accused of developing other kinds of target missiles like the LRALT with a range of 2,000 km and the MRT with the range of 1,100 km.³⁹ Israel is not a party to the INF Treaty. Thus, it has been suspected that the United States is using Israel as a proxy to develop missiles banned under the INF Treaty “under the guise” of promoting the Israeli defence system.⁴⁰

The United States, on the other hand, accuses Russia of violating the INF Treaty. In October 2013, Russia tested its SS-25 road mobile ballistic missile which the US claimed violated the treaty. Russia’s new Yars-M intermediate range missile, with a range of less than 5,500 km, was also claimed by the US to be a violation of the INF Treaty.⁴¹ Russia’s new missile system, the Iskander, which is reported to be a replacement of the SS-23 Oka missile, is claimed by Russia to have a range below 500 km and, hence, it does not violate the INF Treaty. However, the United States is concerned that Moscow could increase the range of the missile.⁴² In fact, the Russian Iskander K, which can be stationed at the Kalingrad region, would be able to target some of the Eastern European countries with ease. This also further raises concerns amongst the Baltic states since Moscow had pledged in the 1990s to keep the Baltic region free of nuclear weapons.

The R-500 cruise missile which is reported to have a range of 360 km could also have an enhanced range “seven times longer.”⁴³ The Russians have also been accused of testing the RS-26 Rubezh missile which the US claims to be an intermediate range missile. Moscow, on the other hand,

38. “The U.S. Creates Missiles by Passing the INF Treaty,” Peacekeeper.ru, February 7, 2014, <<http://www.peacekeeper.ru/en/?module=news&action=view&id=19408>>

39. “The Facts of Violation by the United States of its Obligations in the Sphere of Nonproliferation of Weapons of Mass Destruction and Arms Control,” The Ministry of Foreign Affairs of the Russian Federation, 2010, <http://www.mid.ru/brp_4.nsf/e78a48070f128a7b43256999005bcbb3/cc9c7d192f0ebc5ac325777a0057e1ae>

40. n.17.

41. Andrei Akulov, “INF: US False Accusations to Cover its Own Cheating on Treaty,” *Strategic Culture Journal*, December 17, 2013, <<http://www.strategic-culture.org/news/2013/12/17/inf-us-false-accusations-to-cover-its-own-cheating-on-treaty.html>>

42. Sokov and Miles n. 27.

43. Ibid.

clarifies that the missile is an ICBM and, hence, should fall under the compliances of the new START and not the INF Treaty. However, as Hans Kristensen puts it, "Flying permitted ICBMs to less than intercontinental range does not mean they are banned INF ballistic missiles."

It has also been reported that when the Russians were violating the treaty, the Obama Administration was aware of it and yet failed to inform NATO. This lapse could challenge US "reliability and credibility with its allies."⁴⁴ In fact, according to some experts, "The Obama Administration's failure to acknowledge the treaty violations publicly or confront the Russians about them openly indicates that the Administration can't be trusted to take on potential violations by other actors with whom it has struck deals."⁴⁵ This could also result in US allies in Europe viewing the US as an "unreliable" partner.

Following the US Phase Adaptive Approach system in Europe where the United States plans to deploy its missile defence system, Moscow feels threatened that the missile defence system which the US claims is to negate the Iranian nuclear deterrent, is actually to negate Moscow's nuclear deterrent. Amidst this, Moscow has threatened to reconsider its decision of continuing to abide by the INF Treaty. However, Russian arms control expert, Vladimir Dvorking has suggested that Moscow should not withdraw from the INF Treaty.⁴⁶

Sergei Ivanov had claimed that Russia had more imminent threats on its borders than the United States and, hence, the intermediate range nuclear capable missiles could be a necessity to augment its nuclear deterrent. In 2007, Putin had felt the need to withdraw from the treaty since he felt that the treaty was baseless unless it was expanded to other states developing intermediate range nuclear capable missiles.⁴⁷ The deployment of the DF-

44. Bill Gertz, "Obama Administration Ignores Russian Nuclear Violations," *The Washington Free Beacon*, February 26, 2014, <<http://freebeacon.com/obama-administration-ignores-russian-nuclear-violations/>>

45. Josh Rogin, "US Knew Russia Violated Intermediate-Range Nuclear Forces Treaty," *The Daily Beast*, November 26, 2013, <<http://www.thedailybeast.com/articles/2013/11/26/u-s-knew-russia-violated-intermediate-range-nuclear-forces-treaty.html>>

46. Ibid.

47. Luke Harding, "Putin Threatens Withdrawal From Cold War Nuclear Treaty," *The Guardian*, October 12, 2007, <<http://www.theguardian.com/world/2007/oct/12/russia.usa1>>

11, DF-15 and the DF-21 missile systems by China near the borders of Russia is a concern for the Russians. Moreover, at present, Russia is also facing threats from Japan over the Kurile Islands. In addition, the inclusion of Japan in the US missile defence strategy has also been a cause of grave concern for Russia. In fact, the Russian defence minister in November 2013, had clearly stated in the first joint conference between Russia and Japan, "We made no secret of the fact that the creation by the US of a global missile defence system, including a Japanese element, is causing us grave concern, primarily over the possible destruction of the strategic balance of power in the Asia-Pacific region."⁴⁸ A former commander of the Russian nuclear forces, Col Gen Viktor Yesin warned the United States that "China is seeking to eclipse the United States as the world's leading power by 2049", and, hence, "they want to become a superpower and without a strong military, that would be impossible."⁴⁹ The Chinese strategy of keeping its nuclear strategy ambiguous could also lead to the Russians and the United States withdrawing from the treaty.

According to Sergei Ivanov, the treaty benefits only the United States. He opines that Washington does not any need intermediate range nuclear missiles since such missiles could be used by the US only to attack Canada or Mexico.⁵⁰ However, the above argument can be debated upon. The United States not only faces threats from Russia in the present context, but also perceives a threat from China, Iran and North Korea. The United States has its forward bases in states like Japan, South Korea and Guam to name a few.

Since the Cold War, NATO has been protected under the nuclear umbrella of the United States. Deploying intermediate range nuclear missiles in these forward bases could reduce the US' reliance on its intercontinental range ballistic missiles and could provide Washington quick reaction time.

48. "A New Page': Russia, Japan hold First 2+2 talks, aim to Boost Military Cooperation," RT.com, November 2, 2013, <<http://rt.com/news/russia-japan-first-talks-134/>>

49. Bill Gertz, "Ex-Russian Strategic Commander says New Chinese Missiles Threaten 1987 US-Russian Arms Treaty," *The Washington Free Beacon*, December 14, 2012, <<http://freebeacon.com/national-security/number-the-nukes/>>

50. Quoted in Alex Kerrigan, "Between a Rocket and a Hard Place: Difficult Decisions in US Arms Limitation Treaty Enforcement," *Cornell International Law Journal Online*, 2014, <<http://cornellilj.org/between-a-rocket-and-a-hard-place/>>

Moreover, since the United States is committed to provided extended nuclear deterrence to states like Japan, South Korea and Taiwan, developing IRBMs and deploying them in these states could act as the best form of deterrence against the Chinese and also one of the best ways of guaranteeing the US its extended deterrent commitment. Some analysts also feel that if the treaty is not extended to states like China, North Korea and Iran which have a history of missile proliferation, it could lead to further proliferation of such missiles to other developing states. According to reports, Saudi Arabia has already acquired the DF-21 version of the missiles from China.

While the INF Treaty was able to remove the nuclear capable missiles of a particular category from Europe, it had nil effect on the tactical nuclear weapons deployed by the United States in the NATO territories and those deployed by the Soviet Union. Moreover, the treaty could not influence France and Britain, two NATO members which were also nuclear weapon states, to eliminate their nuclear weapons.

MIXED REACTIONS

There have been mixed reactions amongst the Senate members in the United States regarding the Russian violations of the treaty. In fact, member of the US Senate Foreign Relations and Intelligence Committees, Marco Rubio had even concluded that the United States should not enter into any more arms control negotiations with the Russians.⁵¹ The US Republicans also raised their concerns on the Russian violation of the treaty and claimed that the treaty is “the central arms control accord of the nuclear era.” Hence, any violation may be treated seriously.⁵²

However, a former Pentagon official, Keith Payne, on the other hand, noted that non-compliance with the treaty was not “important” and that it was “unseemly to raise the issues at the expense of US-Russia relations.”⁵³ He further stressed on more arms control pacts which should be signed

51. Rogin, n.45.

52. Diane Barnes and Elaine M. Grossman, “GOP Senators File Measure Protesting Alleged Russian Arms Control Breach,” *National Journal*, March 26, 2014, <http://www.nationaljournal.com/global-security-newswire/gop-senators-file-measure-protesting-alleged-russian-arms-control-breach-20140326>

53. Keith Payne is quoted in Rogin, n.45

If the US withdraws from the INF Treaty, it could lead to serious strategic and political implications for the NATO states and also for the Southeast Asian states like Japan, South Korea and Taiwan. It could result in tensions escalating between these states and China, and between NATO and Russia.

between the United States and Russia.⁵⁴ A Russian arms control expert, Alexander Kononov, also said that the INF Treaty is easy to violate when considered from a technical perspective. However, he also further stated, "Talks of violations reflect minor technical matters that could be quickly solved, if there was a political will to do so" and that the issue is about the political environment and not a problem in the military sphere.⁵⁵ Tom Collina of the Arms Control Association, on the other hand, stated that "even if there has been a violation, the Russians can make amends

for it (the INF Treaty)." He further stated that "the real question is whether they are going to go ahead and actually build and deploy this system."⁵⁶ According to Mark Schneider, the SS-25 does not violate the INF Treaty since the missile was declared an ICBM in the 2010 New START Treaty.⁵⁷ Kingston Reif also clarified that the Yars missile also falls under the New START Treaty and that "Russia could still fly the missile at a shorter range if it so chose, but that wouldn't violate the INF Treaty and it would still count as a delivery system under New START limits, so Moscow wouldn't gain any military significant advantage."⁵⁸

IMPLICATIONS OF WITHDRAWING FROM THE TREATY

Firstly, if the US withdraws from the INF Treaty, it could lead to serious

54. Ibid.

55. Ibid.

56. Eric Auner quotes Tom Collina in "Russia, China Move to Catch up With US in Offensive Strike Technology," *World Politics Review*, February 4, 2014, <<http://www.worldpoliticsreview.com/trend-lines/13548/russia-china-move-to-catch-up-with-u-s-in-offensive-strike-technology>>

57. Bill Gertz, "New Russian ICBM Test Fuels Worries Over Violation of 1987 Missile Treaty," *Washington Free Beacon*, October 24, 2013, <<http://freebeacon.com/new-russian-icbm-test-fuels-worries-over-violation-of-1987-missile-treaty/>>

58. Kingston Reif, "Don't Blame Moscow," *The Bulletin of Atomic Scientists*, August 5, 2013, <<http://thebulletin.org/dont-blame-moscow>>

strategic and political implications for the NATO states and also for the Southeast Asian states like Japan, South Korea and Taiwan. It could result in tensions escalating between these states and China, and between NATO and Russia. There is little doubt that if Russia develops an INF missile, it could have serious implications on its relations with its neighbours in Eastern and Central Europe and also with Beijing.⁵⁹ Such a move could also increase the chances of proliferation of missiles and, thus, affect the Missile Technology Control Regime (MTCR) and Proliferation Security Initiatives.

Withdrawal from the INF Treaty by the United States and Russia could lead to further missile arms build-up by Beijing which, in turn, could result in India following suit.

Moreover, the withdrawal of the US and Russia from the INF Treaty could adversely affect arms control measures. One such example could be the FMCT. Till now, Pakistan has been opposing the treaty claiming that the scope of the treaty is discriminatory. Withdrawal from the INF Treaty by the United States and Russia could lead to further missile arms build-up by Beijing which, in turn, could result in India following suit. Hence, to keep up with this arms race, Pakistan would want to expand its nuclear arsenal and would find it further difficult to sign the FMCT.

NATO AFTER THE INF TREATY

The US withdrawal of the INF weapons from Europe as required by the INF Treaty, “substantially weakened the position” of the US allies in Europe vis-à-vis that of the Soviet Union when the treaty was implemented, thereby raising the risk of a conventional war in the continent.⁶⁰ In the early years, during the ratification process of the treaty, it was assumed that since the treaty banned development and deployment of both nuclear and non-nuclear

59. As given by Steven Pifer, “The Moscow Missile Mystery: Is Russia Actually Violating the INF Treaty,” *Brookings*, January 31, 2014, <<http://www.brookings.edu/research/opinions/2014/01/31-moscow-missile-mystery-russia-violating-inf-pifer>>

60. Editors, “After Russia’s INF Violations,” *National Review Online*, February 1, 2014, <<http://www.nationalreview.com/article/370092/after-russias-inf-violations-editors>>

ground launched cruise and ballistic missiles of the ranges of 500-5,500 km, it would have adversely affect NATO's strategy of follow on forces attack "which calls for deep interdiction strikes using conventional munitions on Soviet air bases, communications centers and westward-moving ground reinforcement echelons in Eastern Europe."⁶¹ It was felt that the treaty would adversely affect NATO's strike capability against Soviet territory since NATO would be losing an essential part of its strike capacity. NATO would also lose a "reliable and decisive part of their escalation option."⁶²

During the Cold War, the treaty would have increased NATO's reliance on conventional forces for deterrence against the Warsaw Pact, thereby reducing its options of "flexible response." Until the treaty came into existence, nuclear weapons played an integral part in NATO's "flexible response" option. Under flexible response, NATO outlined the stages of response: (i) direct defence in which NATO would employ the use of conventional forces against the Warsaw Pact; (ii) deliberate escalation under which selective nuclear weapons were to be employed to attain some military advantage. With the INF Treaty coming into force, there would have been a vacuum created in the choice of weapons to be used against the Warsaw Pact.⁶³ It also led to the decoupling⁶⁴ of the US strategic deterrent from Europe's defence "by eliminating equitable nuclear risk-sharing among alliance members."⁶⁵

The INF Treaty also created a gap between the interests of the NATO allies and their military strategies. Turkey, for instance, shared 610 km of common border with the Soviet Union and was, hence, concerned about the effect of the treaty on its security.⁶⁶ Nevertheless, there is little doubt that the treaty was able to act as a stabilising factor for Europe: to an extent, it

61. Jeffrey Record and David B. Rivkin, Jr., "Defending Post-INF Europe," *Foreign Affairs*, Spring 1988.

62. As given by Captain Ricky Morris, "The Impact of the Intermediate-Range Nuclear Forces Treaty on Turkey's Defense Requirements," *Air War College*, May 1989, <file:///C:/Documents%20and%20Settings/caps/My%20Documents/Downloads/ADA217269.pdf>

63. Ibid.

64. Coupling meant that the United States would be engaged in a nuclear war in Europe in case of a nuclear escalation.

65. Ibid.

66. Ibid.

prevented any nuclear escalation which could have been triggered from the intermediate range nuclear forces which were being deployed during the Cold War. However, some defence analysts believed that NATO could have retained sufficient nuclear forces like short range missiles, artillery shells, aircraft capable of delivering tactical nuclear weapons, Submarine-Launched Ballistic Missiles (SLBMs) and also the French and British nuclear forces.⁶⁷ Hence, the INF Treaty was not believed by many to be a means to control nuclear escalation.

France and Britain did not become party to the treaty since they felt that the treaty could leave them vulnerable to Soviet attacks. For France, according to M. Roland Dumas, "The level of strict sufficiency at which France manages, at some cost to herself, to maintain her deterrent, leaves no room for limitations or constraints." Britain, on the other hand, felt the need more for nuclear weapons than for conventional forces.

Moreover, during the INF negotiations, the United States and NATO were following a 'dual track' approach. On the one hand, they were coercing the Soviet Union to reduce its nuclear forces while, on the other, they were deploying the Pershing and ground launched cruise missiles in Europe.⁶⁸ However, this treaty was logical since the INF missiles of both the Soviet Union and NATO had "high accuracy and short flight times" and, hence, could have adversely affected the "first strike stability" of both the Soviet Union and NATO.⁶⁹

When in 2013 Russia was reported to be violating the INF Treaty, the United States did not even inform its NATO allies of such violations by the Russians. In fact, a GOP Senate aide said, "The INF Treaty is the backbone of protecting Europe from nuclear threats" and the fact that NATO was not briefed by the Administration about the violation is a clear indication of the fact that the US was placing a "higher priority on their relationship with

67. Ibid.

68. Elli Louka, "Controlling Nuclear Weapons," *Nuclear Weapons Justice and The Law* (United Kingdom: Edward Elgar Publishing Limited, 2011).

69. John A. Sweigle and Douglas J. Tincher, "Reductions Without Regret: Avoiding Box Canyons, Roach Motels and Wrong Turns," *Savannah River National Laboratory*, September 2013.

Russia than with actual allies in Europe.⁷⁰ In fact, this approach to dealing with arms control measures could seriously undermine Washington's plans of stationing its missile defence systems in Europe.

A MULTILATERAL FRAMEWORK?

With the end of the Cold War, as the developing states have started to build nuclear capable missiles of varied ranges, analysts have proposed a multilateral framework for the INF Treaty. This framework could include China, Pakistan, India, Iran and Israel. However, such a step may not be appealing to most of the states mentioned above.

An important issue that needs to be taken into consideration is that the INF Treaty already has a multilateral framework. Firstly, it involves the United States, NATO and Soviet Union. However, post Cold War, after the disintegration of the Soviet Union, the treaty further included those states of the former Soviet Union which were no longer a part of it. What remained bilateral was the verification process.

Inclusion of China, Israel, Iran and the other states developing medium and intermediate range missiles into the treaty could be a difficult task. Firstly, the threat perceptions of all these countries differ and they all suffer from the domino effect. Secondly, the range of missiles classified under the INF Treaty may not be appropriate for these states given the threat perceptions that arise from their immediate neighbours. Amidst such circumstances, the following paragraphs highlight the reasons that could prevent these states from joining the treaty and the measures to deal with the issue.

In 2011, during the Sino-American summit, there was a suggestion for the inclusion of China in the INF Treaty.⁷¹ Not only is Beijing developing the intermediate range missiles which are nuclear and conventional capable,

70. Josh Rogin, "US Reluctant to Disclose to All NATO Allies that Russia is Violating INF Treaty," *Atlantic Council*, December 7, 2013, <<http://www.atlanticcouncil.org/blogs/natosource/us-disclosed-to-some-but-not-all-nato-allies-that-russia-violated-inf-treaty>>

71. Mark Stokes and Dan Blumenthal, "Can a Treaty Contain China's Missiles?," *The Washington Post*, January 2, 2011, <<http://www.washingtonpost.com/wpdyn/content/article/2010/12/31/AR2010123104108.html>>

but the newest anti-ship ballistic missile, the DF-21D, has raised concerns in the United States, since its aircraft carriers could be at threat. Bringing Beijing to the table of the INF Treaty would be a difficult task. China has a missile-centric nuclear deterrence strategy for which it has been developing missiles of varied ranges: short range, medium range, intermediate range and intercontinental range. However, some of the threat perceptions of Beijing arise from its immediate neighbours like Taiwan, Japan and South Korea for which it could use its medium and intermediate range missiles. Hence, Beijing would be less enthusiastic about the INF Treaty. This is because, with a weaker air force vis-à-vis the United States, Beijing would be more dependent on its missile capabilities to counter threats from Taiwan, Japan and South Korea which are already under the nuclear umbrella of the United States. Moreover, elimination of intermediate range missile forces would coerce Beijing to concentrate on the enhancement of its ICBM capabilities. This could spur an ICBM arms race in the South Asian region too. Also, "by building a missile force second to none, China is increasing its capability to coerce its neighbours into resolving political disputes on its terms and the costs of a US response."⁷² Also, since Beijing would be left with an ICBM arsenal, the range of the missile systems in the future could be reduced by depressing the trajectory, or fitting more Multiple Independently Targetable Reentry Vehicles (MIRVs), or by lofting the trajectory of the missile systems. Beijing is already working on such technologies in order to make its ballistic missiles invincible against a ballistic missile defence system.

A positive move with Iran is the P5+1 nuclear deal in which positive steps are being taken in order to curb Iran's potential to develop nuclear weapons. Therefore, in the future, there could be scope to persuade Iran to eliminate its nuclear capable missiles of medium and intermediate ranges if Tehran follows the P5+1 nuclear deal diligently. At the same time, it must be noted that for Iran, the INF Treaty could eliminate its ability to deliver nuclear warheads, but not the ability to fire missiles *per se*. These missiles can carry conventional warheads and sub-munitions or even chemical warheads. Also,

72. Ibid.

In the South Asian context, it could be difficult to persuade India and Pakistan to eliminate their medium and intermediate range nuclear ballistic missiles since these missiles are the backbone of their nuclear deterrence.

since the INF Treaty only bans missiles of the 500-5,500 km range, and not the warheads and guidance systems, such warheads and guidance could be used on ICBMs by Iran. Thus, while the treaty could ban the missiles which would be a threat to the United States, the threat *per se* would not be eliminated. Moreover, if Iran and Israel are brought to the table of the INF Treaty, several other states like Syria and Saudi Arabia that are capable of possessing nuclear capable missiles would also have to be brought to the table of the INF

Treaty. This could become a cumbersome task.

In 2012, the United States also allowed South Korea to defy the MTCR norms and extend the range of its ballistic missiles to 800 km, however, keeping the payload the same (500 kg). Such an exception on the United States' part could undermine the MTCR in the long run and thereby further prevent states like Iran and North Korea from entering such treaties. Such an exception could also prevent Beijing from considering this treaty.

In the South Asian context, it could be difficult to persuade India and Pakistan to eliminate their medium and intermediate range nuclear ballistic missiles since these missiles are the backbone of their nuclear deterrence. But the INF Treaty can act as an ideal treaty for India and Pakistan to emulate in order to eliminate those categories of missiles which are causes of destabilisation. For this, in the South Asian context, efforts should be made to eliminate very short range nuclear capable missiles, ranging from 0-500 km range. These missiles should be ground-launched, air-launched, and sea-launched (unlike the INF Treaty.). These include the Hatf 1, 2, 3, 9 for Pakistan and Prithvi I, II and III for India. As far as missiles like the Shaheen 1 and Agni 1 are concerned, these missiles would add to the stability in the region rather than destabilise it.

In the South Asian context, missiles ranging from 0-500 km can be considered as battlefield missiles and in times of crisis, their

command and control could be delegated at the battlefield level too. Hence, such missiles on both sides are destabilising. In case verification and compliance can be built into the treaty, it could serve as a useful confidence building measure. Missiles like the Agni I and Shaheen I are on de-alert status, unlike the Russian short range and medium range missiles. Hence, these missiles comprise a less destabilising factor. Moreover, these missiles, being solid propelled and mobile, have better chances of survivability and could, therefore, contribute positively to nuclear deterrence and stability in the South Asian context.

Intermediate range nuclear forces provide states like India, Pakistan, Iran and North Korea the capability to “project power at the regional level and, with access to nuclear warheads, serve as the central components of nuclear deterrent forces against their regional adversaries or perhaps conventionally superior military powers like the United States.”⁷³ Moreover, even if states like China, North Korea, Iran, Pakistan and India agree to abide by the INF Treaty, it would be difficult to make Israel a part of it. This is because Tel Aviv has not yet declared its nuclear status⁷⁴ and, hence, it could find the treaty to be imposing. This could, in turn, also jeopardise Israel’s relations with the United States. If reports of the United States using Israel as a proxy to develop its medium range, missile systems under the disguise of an Israeli missile defence system, are true, it could also seriously undermine the US efforts for developing the same.⁷⁵

Even if states like China, North Korea, Iran, Pakistan and India agree to abide by the INF Treaty, it would be difficult to make Israel a part of it. This is because Tel Aviv has not yet declared its nuclear status.

73. Record and Rivkin, Jr., n.61, pp.33

74. Though it is a known fact that Israel possesses nuclear weapons.

75. It should be noted that the author has tried to highlight the repercussion of the INF Treaty on Israel’s missile capabilities. The author does not justify the above limitation to be a positive sign.

CONCLUSION

The INF Treaty has served as the bedrock for arms control measures. It proved that it was possible to eliminate an entire class of nuclear weapon systems. However, with the burgeoning pace at which short to intermediate range nuclear missiles are being developed by developing states, it remains to be seen how far Russia and the United States can adhere to this treaty. In case, they do not adhere to the obligations of the treaty and withdraw from it, it could be difficult to achieve a global zero at the broader level in the future. Hence, both the United States and Russia should progress with their arms control measures without letting the violations of the treaty affect them.

TERROR IN THE DEEP AND DARK WEB

E. DILIPRAJ

The internet is the first thing that humanity has built that humanity doesn't understand, the largest experiment in anarchy that we have ever had.

— Eric Schmidt¹

HOW IT STARTED?

Starting as a mere concept named “Galactic Network” by J.C.R. Licklider of MIT in August 1962, the ‘internet’ has in the past few decades revolutionised the way this world communicates. Having been technically nurtured in the Defence Advanced Research Projects Agency (DARPA) from early the 1960s to the late 1970s, the internet, i.e. the then ARPANET, has undergone various phases, starting with the sending of host-to-host messages with mere packet switching technology in extreme low speed (2.4 kbps – 50kbps) in 1969, to the advancement of the host-to-host protocol of ARPANET called “Network Control Protocol” (NCP) in 1970, to the introduction of ‘electronic mail’ service in 1972 for an easy coordination mechanism in ARPANET which took off as the largest network application for over a decade. Later, due to the inability of the NCP to adapt to the open-architecture network

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1. Eric Emerson Schmidt (born April 27, 1955) is an American software engineer, businessman, and was the executive chairman of Google. He is a member of President Obama’s Council of Advisors on Science and Technology (PCAST). In 2013, Forbes ranked Schmidt as the 138th-richest person in the world, with an estimated wealth of \$8.3 billion. <http://www.brainyquote.com/quotes/keywords/internet.html>, accessed on March 9, 2014.

While file transfer and remote login (Telnet) were very important applications, electronic mail was probably the most significant innovation which expanded new methods of communication by providing a model in the building of the internet itself.

environment which would globalise the network, a new protocol called Transmission Control Protocol/ Internet Protocol (TCP/IP) was developed.²

While file transfer and remote login (Telnet) were very important applications, electronic mail was probably the most significant innovation which expanded new methods of communication by providing a model in the building of the internet itself. Slowly, various proposals started pooling in that would expand the applications of the internet, including packet-based voice communication (the precursor of internet telephony), various models of file and disk sharing, and early “worm” programmes that showed the concept of malware agents. Thus, the internet, which was initially designed for one application, i.e. file sharing, became a platform for conceiving many applications in it which became a reality when the ‘World Wide Web’ (WWW) was introduced. While Ethernet technology was developed in 1973, this technology coupled with the widespread developments of LANs (Local Area Networks), PCs (Personal Computers) and workstations, led the nascent internet to flourish in the 1980s.³

As a result of the increase in scale of the internet, many managerial issues were faced and solved. To begin with, the hosts were assigned names (early URLs) which made it unnecessary to remember the hosts’ numeric addresses. Next as the connectivity increased, the simple single distributed algorithm routing technique-based routers were replaced with the hierarchal model routing-based routers which permitted different regions to use a different Interior Gateway Protocol (IGP), so that different requirements for cost, rapid reconfiguration, robustness and scale could be accommodated. Also, with the evolving internet, a supporting operating

2. Leiner et al. “Brief History of the Internet”, *Internet Society*, 2013.

3. Ibid.

system was also developed that helped in the widespread adoption of the internet. Soon after the transfer of ARPANET from NCP to TCP/IP on January 1, 1983, ARPANET was split into a MILNET supporting operational requirements and an ARPANET supporting research needs, thus, forming a precursor for the civilian use of the internet. Consequently, by 1985, the internet became well established as a technology that supports a broad community of researchers and developers, and was also used by other communities for daily computer communications, especially electronic mails.⁴

As DARPA's ARPANET was progressing on one side, many more agencies which were able to secure a funding started developing their own networks on the lines of ARPANET. The US Department of Energy (DoE) established MFENet for its researchers in Magnetic Fusion Energy, whereupon DoE's High Energy Physicists responded by building the HEPNet. The National Aeronautics Space Agency (NASA) space physicists followed with SPAN, and the academic and industrial computer science community, with an initial grant from the US National Science Foundation (NSF), established the CSNET. Apart from these networks, one another landmark network that was developed was the NSFNET with TCP/IP which during its lifetime grew to 45 mbps links with over 50,000 networks on all seven continents and even in outer space. As a result of the successful development of various networks by the US and other international government funded agencies, commercial sectors around the world also started showing interest in this technology during the late 1980s which opened the way for commercialisation of the internet in the early 1990s.⁵

By 1985, the internet became well established as a technology that supports a broad community of researchers and developers, and was also used by other communities for daily computer communications, especially electronic mails.

4. Raphael Cohen, "Internet History", *International Journal of Technoethics*, 2(2), 45-64, April-June 2011.

5. Leiner et al. n.2.

Although initial commercialisation of the internet was restricted only to the vendors and buyers of military related technology, their hard work in successfully achieving interoperability among their products widened the scope for the internet to spread to other fields as well. Therefore, on October 24, 1995 the Federal Networking Council (FNC) passed a resolution defining the term 'internet'. The definition is as follows:

- The Federal Networking Council (FNC) agrees that the following language reflects our definition of the term "Internet". "Internet" refers to the global information system that:
- is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons;
- is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols; and
- provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein.⁶

Thus, a concept which was conceived in the era of time sharing, prolonged its stay and expanded its borders by adapting itself to function and grow along with the new developments in computer technology like the personal computer, client-server peer-to-peer computing, network computing, LANs and also by supporting a wide range of functions from file sharing and remote login to resource sharing and collaboration, and has spawned electronic mail and later, the World Wide Web. The scope for adaptability combined with the huge investment from the commercial sector into this successful promising technology made the internet become a 'commodity' from its initial state of 'luxury'. Also, "the availability of this pervasive technology (internet), along with powerful affordable computing and communications in portable form (i.e., laptop computers, PDAs, cellular phones), has created a new paradigm of widespread nomadic computing and communications."⁷

6. Ibid.

7. Cohen, n.4.

Even during its experimental phase, as a luxury technology, the internet had attracted thousands of users which, eventually, in due course of time as it became more commercialised, have multiplied into millions. The uses of the internet as a platform for networking, communication, knowledge gathering, research and entertainment elevated with the invention of various new applications like e-mail, websites, blogs, chat rooms, immediate messages, music and video sharing, online news media, and more recently, social networking, all of which have transformed the internet into a necessary commodity. This is clear from the fact that in just over a span of two decades since its commercialisation, the internet has gained more than 2.4 billion users around the world.⁸ As the internet has drastically reduced the cost and time for communication, more and more people have embraced this technology. Especially since 2005, the number of users has increased by more than 1.4 billion mainly due to the expansion of social networking, online shopping and other forms of easy communications, including Video Voice over Internet Protocol (VVoIP) services like Skype. Moreover, the amount of information available in the indexed internet is estimated roughly to be more than 5 million terrabytes according to Google which includes texts, pdfs, images and videos.⁹ But the catch here is that nobody or no search engine can either accurately calculate the amount of information available online or ascertain the exact number of websites, blogs or videos available online. This is because the once close knit internet has in time grown so big that it has become virtually impossible to be indexed. Thus, the un-indexed internet which is hidden in the darkness, deep under the indexed surface web is known as the 'deep web, hidden web, or invisible web'. The definition and the genesis of these terminologies are discussed in detail in the following sections.

WHAT IS THE 'DEEP WEB'?

During the early days of the internet, the information available in it was very little which was easily indexed and the users were also able to access it easily. But the situation changed as the usage of the internet expanded.

8. <http://www.internetworldstats.com/stats.htm>, accessed on March 11, 2014.

9. <http://www.wisegeek.org/how-big-is-the-internet.htm>, accessed on March 11, 2014.

As a result, indexing of information in the internet was based on queries entered in search engines. The conventional search engines were able to retrieve static pages but proved inefficient while retrieving dynamic pages. A static page is linked to other pages on the internet. On the other hand, a dynamic page is linked to a particular web page and can be retrieved only through targeted queries or keywords. This created a gap between the static and dynamic web pages in the internet and the gap started to widen as time passed. Therefore, in 1994, Dr. Jill Ellsworth coined the phrase 'invisible web' to refer to information that was 'invisible' to queries of the conventional search engines used in that time period.¹⁰

Later, in 2001, Michael K Bergman, a web scientist, coined another term, 'deep web' in his paper titled "The Deep Web: Surfacing the Hidden Value". His definition for the term deep web was no different from Ellsworth's term 'invisible web', but he avoided using this term because his main aim was to discover automated means for identifying deep web sites and directing queries to them in order to make these invisible pages visible on the surface web. He also aimed at quantifying the size of the deep web and at characterising the quality of content in the deep web. Since Bergman's paper was the first extensive research on the invisible/ deep web and also because it became widely famous among the web research community, the term 'deep web' prevailed over 'invisible web' to refer to the unindexed sources of the web. Therefore, the definition for the term 'deep web' would be as follows:

The information content on the internet (web pages, documents, files, images, etc) which are:

- inaccessible through direct queries in the conventional search engines;
- which can be accessed only through targeted queries or keywords;
- which are not indexed or which are unable to be indexed by the conventional search engines;
- which are protected by security mechanisms like login IDs, passwords, membership registrations and fees.

10. Michael K., Bergman, White Paper: "The Deep Web: Surfacing Hidden Value", *Journal of Electronic Publishing*, vol 7, issue 1, August 2001.

In short, the information content on the internet which cannot be accessed directly through conventional search engines but requires a targeted approach is called the 'deep web' or 'invisible web' or 'hidden web'.

In order to better understand the concept, let us consider the example of one well known deep web resource in the internet: "JSTOR". JSTOR is a widely used academic digital library of books, journals and primary sources that started in 1995. Since then, it has got a huge collection of articles and books in various formats which can be downloaded by its users by getting access through membership and fees. Any queries on the search engines for the articles available in JSTOR would take us to the JSTOR's page but one cannot download the articles directly by just reaching those pages, without paying the fees and getting the membership. Moreover, since JSTOR became famous over the years, the search engines adapted their crawlers to accommodate the web pages of JSTOR in their results whereas there are numerous other web pages like JSTOR with immense information content which are still hidden or invisible from the crawlers and spiders of the search engines. The search engines like Google, Bing, etc are constantly altering their algorithms to make their crawlers reach the deepest point possible in order to retrieve information and, most importantly, to index it in their results. Yet, the internet is becoming bigger every minute, paving the way for deeper web resources which are hidden from the eyes of the search engines. According to the processor manufacturing giant Intel, in every minute in the internet, the following things happen:

- 639,800 GB of information is transferred globally;
- 204 million e-mails are sent;
- there are 135 Botnet infections;
- there are 1,300 new mobile users;
- 4,7000 apps are being downloaded;
- \$83,000 worth sales take places in Amazon.com;
- 30 hours of video is being uploaded in Youtube;
- 6 million views in Facebook;
- there are more than 100,000 new tweets;
- 300 new photos are uploaded in flickr;

The dark side of the internet includes adult content web sites, forums, chats, explosives courses, hackers, assassins, human trafficking, black market of weapons and drugs, etc which are hidden in secret web links.

- more than 100 new linked in accounts are opened;
- there are more than 2 million search queries in Google and much more.¹¹

While the above mentioned list is just a sample, the real magnitude of information being processed in a minute is much bigger than any estimate.

DARK WEB, DARK NET AND DARK INTERNET: DEFINITIONS AND CONCEPTS

The internet/ surface net which provides its users with information and entertainment also has another dark face to it. The dark side of the internet includes adult content web sites, forums, chats, explosives courses, hackers, assassins, human trafficking, black market of weapons and drugs, etc which are hidden in secret web links. This part of the internet which causes grave danger to the world cyber community and also to global security in general is a part of the deep web and is called the 'dark web'.

The 'dark web' can be defined as *the portion of the deep web which contains generally the illegal and anti-social information and can be accessed either through conventional browsers or specialised browsers for accessing the secretive web links.*

In recent years, the dark web has been moving towards more secretive locations due to the crackdown of the government agencies on it. The dark web is a lucrative location for criminals and other anti-social elements as it provides it a natural cover from the government agencies. Moreover, the unaccounted huge economy involved in the dark web is like a treasure hunt for perverted minds. Also, the black market of drugs, weapons, fake IDs, human organs, human trafficking, etc requires an anonymous location to operate without the fear of monitoring by the government agencies. Therefore, in recent years, more and more dark net sites are turning towards

11. <http://www.intel.com/content/www/us/en/communications/internet-minute-infographic.html>, accessed on March 14, 2014.

secret domains like ‘.onion’ sites which cannot be accessed through conventional browsing methods. Hence, before going into detail about the terror in the deep and dark web, it is imperative to know how to get access to these secretive dark web sites in the deep web.

THE ONION ROUTING

Being a global public medium of interaction, any information on the internet is traceable to its point of origin or can be interrupted to cause damage to the information. This vulnerability was not acceptable to many players of the internet and, thus, the need for a secured encrypted method of networking was realised which would not only keep the data safe but also safeguard the anonymity of the users.

Thus, ‘The Onion Routing Project’ (Tor Project) was developed with initial sponsorship from the US Naval Research Laboratory. Its current sponsors include the US Department of State Bureau of Democracy, Human Rights, and Labour, SRI International, National Science Foundation, Radio Free Asia, Ford Foundation, Google Summer of Code, an anonymous North American Internet Service Provider (ISP), and more than 4,300 personal donations from individuals.¹² “The current Tor Project claims that it is a non-profit organisation which works towards privacy and security on the internet.”¹³

Tor and its Operations

Tor is a free software bundle which can be downloaded from its official web site www.torproject.org. Its initial release was on September 20, 2002, and it is a cross-platform software which can work on almost all operating systems. The Tor bundle uses Mozilla Firefox as the embedded browser for accessing the internet. Tor gets its name from its encryption method, where layers of encryptions are stacked one above the other like an onion in order to provide

12. “Tor: Sponsors,” <http://www.torproject.org.in/about/sponsors.html.en>, accessed on March 16, 2014.

13. Ibid.

anonymity to the communications and also to hide the origination node of the communication. Any communication on the internet has two parts: the data payload and the header for routing. The conventional encryption softwares were able to encrypt the data payload but failed in hiding the header, whereas Tor is different from previous encryption softwares in a way that it can not only encrypt the data payload but can also hide the header which is used for routing, thus, erasing the cyber footprint of any communication and creating more privacy, security and anonymity for its users.¹⁴

When a user is connecting through the Tor bundle, the user's system becomes a Tor client and obtains a list of Tor nodes from a directory server through an encrypted link. The Tor nodes are nothing but various users (Tor clients) around the world who have volunteered their systems to act as an enroute for the Tor network.

When a request is made from the user to connect to a web site, the software builds its own encrypted random path called circuit across the Tor nodes to reach the destination. The circuit is extended one hop at a time i.e. each node only knows from where it takes the relay and where it has to pass on the relay and so no node in the entire circuit is aware of the whole path any data packet has taken. Also, each hop has its own encryption key which masks the path of the data packet. Once a circuit is established, any kind of communication can be made or several different softwares can be deployed through the Tor network. Also, in order to be more efficient, the Tor network uses the established circuit only for a certain time period and for later requests, a new circuit gets connected to its destination which delinks the data path of earlier actions of the user from the path of the new requests and, hence, erases the footprint.

Hidden Services in the Tor Network

Apart from providing the function of an anonymous browser bundle, Tor software also offers other hidden services like web publishing and instant messaging service through anonymous servers configured exclusively for these hidden service purposes. This hidden service helps the Tor users to publish a web site in the Tor network where users can publish materials

14. Ibid.

and access the information online in these web sites without any kind of censorship. Moreover, because of the anonymity provided by the Tor network, neither will the users know the owner of the site nor the owner know who is posting information or accessing the site.

Before moving further in discussing how the hidden services work, it is essential to know why the users of the internet require such hidden services or in general, why the users wish to be anonymous while going online. The answer for this question in simple terms is “fear of being identified”. In the real world, people have a personal and a professional life, likewise, in the virtual/cyber world too, the users have their own personal and professional identity which most of them would like to keep delinked from each other. This is because of the kind of activities they carry out with their personal identities. For example, a person who is working in a government establishment, may not like, or agree with, all the policies of the ruling government. But since his career is based on it, he/she would remain silent in the real world without showing dissatisfaction. When the same person goes online and when he/she knows that he/she can share anything without revealing his/ her identity, he/ she creates his/ her discrete personal online identity to share his/ her dissatisfaction through social networks, forums or chat rooms, etc. But such people may not link their other professional identity to their personal identity in order to remain clean and unnoticed. Also, more crooked minded people use this anonymity provided by the internet for unethical reasons and to be hidden from being identified in the real world. This remains the case for all other anonymous uses of the internet and its hidden services by its users around the world.

While the fear of being identified remains the main reason for anonymity by the users, the technology that allows them to be anonymous works as follows. The hidden services work on “rendezvous points” through which Tor users connect to the hidden services offered in the Tor network, each without knowing the other’s network identity.

The hidden services in the Tor network have to advertise themselves to the clients about their existence because they are hidden unlike the services in the public internet where the web sites are well connected and have a user

friendly URL. Therefore, the service randomly picks some relays, builds circuits to them, and asks them to act as introduction points by telling them its public key. The hidden service assembles a hidden service descriptor, containing its public key and a summary of each introduction point, and signs this descriptor with its private key. It uploads that descriptor to a distributed hash table. The descriptor will be found by clients requesting abc.onion where 'abc' is a 16-character name derived from the service's public key.¹⁵

After establishing the connection, the client downloads the descriptor from the distributed hash table. The client will come to know the set of introduction points and the right public keys to use from the descriptor for abc.onion. Simultaneously the client also creates a circuit to another randomly picked relay and asks it to act as a rendezvous point by telling it a one-time secret. When the descriptor is present and the rendezvous point is ready, the client assembles an introduce message and sends it to one of the introduction points, requesting it be delivered to the hidden service. As the communication is carried out in the Tor network, the client's IP address cannot be related with the introduced message and, thus, the client remains anonymous.¹⁶

The hidden service decrypts the client's introduce message and finds the address of the rendezvous point and the one-time secret in it. The service creates a circuit to the rendezvous point and sends the one-time secret to it in a rendezvous message. Finally, the rendezvous point notifies the client about successful connection establishment which enables both client and hidden service to use their circuits to the rendezvous point for communicating with each other. The rendezvous point simply relays (end-to-end encrypted) messages from client to service and vice versa.¹⁷

15. "Tor: Hidden Service Protocol", in <http://www.torproject.org.in/docs/hidden-services.html.en>, accessed on March 17, 2014.

16. Ibid.

17. Ibid.

Generally, a complete connection between a client and the hidden service consists of six relays: two of them picked up by the client with the third being the rendezvous point and the other three picked up by the hidden service.

The hidden service supported by the Tor network attracts many users around the world, who wish to hide from government monitoring or bypass any kind of censorship, to publish their '.onion' websites which can be categorised under various fields ranging from encrypted mails services, hidden social networking, whistleblowers sites like Wikileaks, online shopping, to the murky sites like the black market of drugs and weapons, hitman services, adult pornography, cyber laundering, etc. Most of the .onion sites are unstable in nature as they do not exist in a particular URL for long time. Another catch here is that the proportion of the dark web is much bigger and it is growing every minute in its size, depth, number of users and also in terms of services offered by these web pages.

TERROR IN THE DEEP AND DARK WEB

As the dark web is growing in its size and usage, it is offering a variety of services to its users. But the nature of the services offered in this dark web is a threat to the real world as most of them are illegal, ranging from drugs, weapons, hitmen to pornography and money laundering. Although such services are prohibited in the real world, the natural cover provided by these hidden services increases the magnitude of their usage online. More and more users are attracted by the fact that they can anonymously use these services for their personal gains. A deeper look into the kind of terror existing in these dark web services would help understand the real danger.

Black Market

Similar to the online shopping facilities offered in the internet/ surface net, the dark net also offers its users a number of deep and dark online markets where the only difference is the products sold in them. While books, clothing, watches, footwear, jewellery are the usual products for sale in the surface net, the deep web/ dark web online markets are filled

The deep web/ dark web online markets are filled with products like drugs (stimulants, psychedelics, prescription, precursors, ecstasy, dissociatives, cannabis, steroids/ PEDs,etc), arms, weapons, ammunitions, fake IDs, stolen electronic goods, stolen or skimmed credit card details, stolen art works, banned books, and other illegal products.

with products like drugs (stimulants, psychedelics, prescription, precursors, ecstasy, dissociatives, cannabis, steroids/ PEDs,etc), arms, weapons, ammunitions, fake IDs, stolen electronic goods, stolen or skimmed credit card details, stolen art works, banned books, and other illegal products. A few dark web market pages like "Silk Road" offer a holistic service of sale of various products while a few other web pages like "Only.Cigs"¹⁸ offer only particular products. 'Only.Cigs' is a deep web market which offers its users all brands of cigarettes around the world and 'Silk Road' is the most popular and the

most notorious black market in the dark web.

'Silk Road' is dubbed as the 'ebay of the deep web' by its users as its service is similar to that of ebay of the surface net. Anybody who has a product for sale can register in the 'Silk Road' web page and post a picture of the product and the pricing in the appropriate product category. Any user who wishes to buy the product can login and purchase the product by making the payment to the web page. Every vendor has his own track record for credibility and authenticity which increases the trust factor among the buyers to buy a product from a vendor. The fact that all payments are through crypto currency, 'bitcoins',¹⁹ makes the conditions favourable for the users in order to avoid the involvement of any financial agency to oversee the whole process. Also the products are delivered either at one's doorstep or at a pick-up point. The service is offered all around the world expect for a few constraints by some vendors for delivery in some parts of the world.

18. <http://cigs7cviqbi4bvuy.onion/>, accessed on March 21, 2014.

19. Bitcoin is a digital currency mined using cryptographic techniques. It is used as a peer-to-peer payment system and was introduced by Satoshi Nakamoto in 2009. It is now being used as the major transacting money in the internet.

During the conduct of this study, 'Silk Road' offered a variety of products under various categories like alcohol, apparel, art, biotic materials, books, computer equipment, custom orders, digital goods, drug paraphernalia, drugs (stimulants, psychedelics, prescription, precursors, ecstasy, dissociatives, cannabis, steroids/PEDs), electronics, erotica, forgeries, hardware, herbs and supplements, jewellery, lab supplies, lottery and games, medical, money, packaging, services and writing.²⁰ Similarly, there are many other web pages in the deep and dark web which offer similar products to users. There are also web pages like "UK Guns and Ammo Store"²¹ exclusively for the sale of arms and ammunition. In general, it can be stated that almost 30 percentage of the dark web resources are filled with these online black markets of illegal products which pollute the society and can cause serious damage to its stability.

Adult Content

Although the surface net also has a number of pornographic sites, the dark web pornographic content is much bigger in size and more cruel in nature. Most of this dark web adult content can only be accessed by becoming a registered user or by paying some fees to the web pages. Apart from the web pages, there are also forums and chat rooms like "Dark Nexus"²² in the deep web where its users discuss their evil minds with one another. The adult content pages constitute more than 40 percent of the dark web while most of its contents comprise videos.

Fake IDs, Middleman Services and Other Financial Services

The deep web is also the hub of other illegal activities like making of fake IDs, sale of counterfeit banknotes, stolen credit/ debit cards, PayPal accounts, etc. There are many web pages in which fake IDs can be ordered, made and delivered for a particular price. These fake IDs include passports, driving licences, identification cards, etc. Stolen or skimmed credit/ debit cards, counterfeit banknotes are the other products that are sold in the deep web through many web pages.

20. <http://silkroad6ownowfk.onion/login>, accessed on March 21, 2014.

21. <http://tuu66yxvrnn3of7l.onion/>, accessed on March 21, 2014.

22. <http://e266al32vpurbyg.onion/>, accessed on March 22, 2014.

A few other pages offer some sort of middleman services to their users wherein individuals offer to help the users in all sorts of illegal activities for a certain price. A few web pages are also dedicated to 'assassination services' where the user has to give the name and other details of the person to be assassinated and pay for the service or in some cases even worse, where the users are asked to bet on a few people's date of death and anybody who guesses correctly, is rewarded²³.

While many web pages do not support negotiations, a few give the option of negotiable price. In a few web pages, the buyer has to directly place the order and wait for the product to be delivered, while in others, if the vendor is an individual, the e-mail ID of the vendor is given so that the user can contact the vendor directly through e-mail and place the order after price negotiations. Web pages which offer fake IDs, counterfeit banknotes, stolen credit/ debit cards and other financial and middleman services constitute around 10 percent of the dark web resources and are mostly owned and operated by individuals or a small group of people who wish to make by money in the shortest way possible.

Other dark web contents include forums and chat rooms where like-minded wicked people discuss their evil ideas among themselves. It also includes the sale of banned books, training materials for explosives and other chemical components including RDX, etc. In addition to this, terrorist literature and other types of anti-social literature which is appealing to like-minded readers is also found here. Besides that, sports betting, illegal gambling and lottery are also a part of the dark web financial services. Furthermore, there are also more gruesome web pages which provide their readers the results of banned and cruel medical tests conducted on people, offer human organs for sale, and much more.²⁴

IMPLICATIONS OF DEEP AND DARK WEB ON GLOBAL SECURITY

From the above description about the deep and dark web, it is obvious that it poses a serious threat to security in the cyber/ virtual world, but it should

23. <http://assmkedzgorodn7o.onion/>, accessed on March 23, 2014.

24. <https://torlinkbgs6aabns.onion.to/>, accessed on March 24, 2014.

also be noted that in the longer run, the services provided in the deep web, especially in the space of dark web, pose a greater threat to global security on the whole.

How Does the Deep and Dark Web Affect Global Security?

First, the hidden services which offer easy access to encrypted e-mails, forums, chats and other forms of file sharing services provide a safe haven for the terrorists and other non-state actors to communicate among themselves without any oversight of the government intelligence agencies. While the contents of the internet/surface net are being heavily monitored by the intelligence agencies of the world to spot the presence of any suspected terrorists, the deep web with its hidden services provides the hiding ground for them. Moreover, since the location of the user is masked while using the hidden services with proper precautions, this facility enables the terrorists to be active on the deep web with no fear being caught. Therefore, the deep web acts like a ‘treasure trove’ which provides them with anything and everything from encrypted means of communication, file sharing, training grounds, knowledge sharing, recruitment, to planning and coordination. They also attract funds for their organisation and their cause, using these hidden services of the deep web, by accepting bitcoin donations which they, in turn, use for purchasing weapons in the dark web black markets and use these against the society. For instance, “Fund the Islamic Struggle without Leaving a Trace” is a web page in the deep web which invites donations for *jihad* through bitcoin transactions to a particular bitcoin address.²⁵

Secondly, the services and resources of the deep web and dark web are already a lucrative target for the black hat hackers, cyber thieves and other anti-social elements who concentrate their efforts in robbing the economy of the deep web for their personal financial gains. As most of the transactions in the deep web are through virtual currencies like bitcoins and through online money transactions like PayPal, these services are under heavy cyber attack by the hackers and cyber thieves to steal the wealth available on various web pages and from various virtual currency miners, stock holders

25. <http://teir4baj5mpvkg5n.onion/>, accessed on March 25, 2014.

While the international community is fighting over governance of the internet, the existence of the deep web and its resources and services comprise a bigger concern for the parties that would govern the internet in the future.

and account holders. Also the virtual economy poses a grave threat to the economy of the real world as it is very unstable and also because of the fact that it does not have any accountability to it. Therefore, the deep web services act as a lucrative safe house for the anti-social elements to carry out their cyber laundering (online money laundering), through gambling, betting, lottery and even through direct encrypted transactions in the dark web. Furthermore, the issue of cloned and skimmed credit/debit

cards details and other financial details being sold in the deep web creates chaos in the real world banking system. If this situation continues, it can also be stated that the theft of bank details and credit/ debit card details will increase in the future.

Thirdly, the dark web in particular is a great threat to the future generation users. Human psychology is such that the mind gets easily attracted to all the wrong things first, and the future generation, comprising children today, would be attracted towards the dark web easily, thereby changing the mindset of a whole generation. This will result in the internet being used in the future as a hub for illegal activities as the user has no fear of being caught. As a result, more and more cyber terrorists will come up who will pose a great danger to the cyber security of the world. Moreover, the uninterrupted sale of drugs and weapons, arms and ammunitions, fake IDs, etc in the dark web would result in the increase of drug addicts and juvenile criminals in the future. Also, the huge amounts of adult content material like pornography which can be easily accessed in the dark web would also result in creating warped mindsets and criminal thoughts in the minds of children who may end up becoming criminals in the future.

Finally, internet security and, on the whole, cyber security is at stake due to the hazardous effects of the deep and dark web. While the international community is fighting over governance of the internet, the existence of the deep web and its resources and services comprise a bigger concern for the

parties that would govern the internet in the future. Also, it intensifies the debate between open source and restricted access, censorship, monitoring, surveillance and other forms of supervisory mechanisms imposed on the internet.

How is it Being Tackled?

Although action by the security agencies against the deep web may seem impossible because of the way it has made deep inroads into the lives of netizens around the world, the security agencies are trying their best to bring order in this chaotic deep space. While they have had success in some instances, they are still struggling on many fronts.

For instance, in August 2013, almost 50 percent of the known .onion deep web pages completely vanished off the deep web network due to the crack-down on a hosting operation in Ireland. The hosting operation named as 'Freedom Hosting' was hacked using the 'javascript exploit' in the Firefox browser version 17 which was embedded in the Tor Browser bundle then and was taken down by the Federal Bureau of Investigation (FBI) of the US. Also, the owner of the Freedom Hosting infrastructure, Eric Eoin Marques was arrested and extradited from Ireland to the US. His infrastructure which hosted many of the .onion sites utilised 550 servers around Europe and offered space to anyone who wanted it, with a promise to never look at the contents personally. The hosting service was targeted by FBI because it was diagnosed that this infrastructure was the major hub in distributing child porn in the dark web.²⁶

Later, in another instance, the black market giant in the deep web, 'Silk Road' was taken down on October 2, 2013 by the FBI in an operation conducted after years of painstaking process of piecing together the cyber footprints of the operator of the website and it also resulted in the arrest of the main operator Ross William Ulbricht aka Dread Pirate Roberts (DPR).

26. "The Ultimate Guide to the Deep Web", in <http://www.sickchirpse.com/deep-web-guide/>, accessed on March 24, 2014.

It is impossible for any one country's government agencies to tackle all the problems of the global internet—the issue is too big for any one country to handle alone.

The FBI seized more than 26,000 bitcoins worth \$3.6 million from accounts on Silk Road and 144,000 bitcoins worth \$28 million that belonged to Ulbricht.²⁷ Subsequently on December 2, 2013, three more administrators of the site were also arrested.²⁸ Thus, bringing the whole dark net black market giant to a standstill, the FBI proved to the world that even the deep web can be traced, tracked, monitored and controlled by the law enforcing agencies.

Nevertheless, 'Silk Road 2.0' was resurrected by former associates of Ulbricht and it started functioning and with more security mechanisms from early November 2013. Many of the dark net sites which were brought down due the shutdown of the Freedom Hosting service, changed their hosting space and resurfaced again in the dark web. It is impossible for any one country's government agencies to tackle all the problems of the global internet—the issue is too big for any one country to handle alone. Also, many legal issues surface between various countries during the various phases of the investigation into any particular case. Also, the level of technicalities involved in the process make the issue more complex. Therefore, till the time some sort of proper governance is evolved for the internet, the law enforcing agencies of various countries and the criminals dwelling in the deep and dark net will keep on playing their cat and mouse game.

27. Dave Lee, "Silk Road: How FBI Closed in on Suspect Ross Ulbricht", *BBC*, October 2, 2013, in <http://www.bbc.com/news/technology-24371894>, accessed on March 26, 2014.

28. Andy Greenberg, "Feds Indict Three More Alleged Employees of Silk Road's Dread Pirate Roberts", *Forbes*, December 12, 2013, in <http://www.forbes.com/sites/andygreenberg/2013/12/20/feds-indict-three-more-alleged-employees-of-the-silk-roads-dread-pirate-roberts/>, accessed on March 27, 2014.

THE UKRAINE IMBROGLIO: DOES IT IMPACT INDIA?

CHANDRA REKHA

INTRODUCTION

The recent developments in Ukraine have once again brought the region to a critical juncture in international affairs. What started as anti-government protests soon transformed into intense ethno-political mobilisation with the demand for secession becoming contagious in eastern Ukraine. While analysts are busy examining the triggers for the intense protests, the need of the hour is to evaluate the failure of Kiev to address the underlying factors that have fostered the uprising of ethnic groups in Ukraine since its independence post Soviet disintegration in 1991. Hence, it becomes imperative to explore the factors that have contributed to the making of the conflict in Kiev in order to gain a better perspective of the Ukraine imbroglio and the impact, if any, it may have on India. This paper is an attempt to explore the breadth of Russia's reengagement in the former Soviet Republics, the relations between Ukraine and Russia since the post-Cold War era, how Ukraine's membership of the North Atlantic Treaty Organisation (NATO) or European Union (EU) in the future is seen as a strategic catastrophe by Russia and the failure of Ukraine to strike the right balance between relations with Russia and relations with the West in its foreign policy approach.

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CATALYSTS FOR ETHNO-POLITICAL CONFLICT IN UKRAINE

Signing of the Agreement

After a severe decade-long recession following independence, the economy in Ukraine grew satisfactorily from 2000 to 2007 on the back of a high demand for exports of steel and other commodities, and a burgeoning consumer sector. However, the global financial crisis hit the economy hard as demand for its exports dried up, and the economy has struggled to grow consistently since then. The economy's reliance on heavy industry, poor business conditions and high levels of corruption continue to impede its achievement of long-term sustainable growth. A large budget deficit and insufficient resources meant that the government was in need of a substantial bailout.¹ Consequently, in November 2013, Viktor Yanukovich, the then president of Ukraine and pro-Russian leader, postponed a planned association agreement of the EU trade deal in favour of the Russian trade deal. This escalated fears that he would throw Ukraine back into Russia's grip. As a repercussion to finalising the deal with Russia, protests ensued in Kiev by pro-EU supporters that lasted until the New Year and then turned violent.

Euromaidan

The Euromaidan² demonstrations turned violent in early 2014 when talks between the government and opposition, mediated by the foreign ministers of Germany, Poland and France, resulted in an agreement. The principles

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1. Ben Smith and Daniel Harari, "Ukraine, Crimea and Russia", Research Paper 14/16, House of Commons Library, March 17, 2014, p. 11.
 2. The first part, "Euro," refers to Europe. "Maidan" is a word of Persian origin, which is likely to have entered Ukraine via the Ottomans, meaning "square" or "open place", however, translating it as "Europesquare". The square was the focal point of the Orange Revolution, the 2004 mass daily protests that forced the annulment of a fraudulent presidential election. In that role, maidan became a two-syllable encapsulation of peaceful resistance and determined action. The symbolism is so powerful that the Ukrainian media have taken to referring to all the current demonstrations as Euromaidan, even if they take place on a "ploshcha," another word for square. Source: Jim Henitz, "Ukraine's Euromaidan: What's in a Name?", December 2, 2013. <http://news.yahoo.com/ukraines-euromaidan-whats-name-090717845.html>

of the agreement comprised a return to the country's 2004 Constitution³; it abandoned the Russian deal and stripped Yanukovich of his powers without an impeachment, made former parliamentary speaker Turchykov interim president and called for early presidential elections by December 2014.⁴ The illegitimate coup and ousting of President Yanukovich, appointment of an interim government and dissatisfaction with the initiatives in Kiev provided the trigger for the crisis. The new Kiev Administration and the deliberations by Britain, France and Poland were not honoured by the ethnic Russians.

The Crimean Uprising

Crimea was the bastion of support to the ousted President Yanukovich as it comprises nearly 60 percent of the Russian ethnic majority. Pro-Russia protesters rallied against the new interim government in Ukraine which was illegitimate and a takeover by the semi-fascists' forces.⁵ The dissatisfaction with Kiev's interim government got further aggravated when the interim government banned the Russian language. As a result, the ethnic Russian population feared that they would be suppressed by the semi-fascists. What started as anti-government protests soon transformed into a secessionist movement with a call for a referendum on March 16, 2014. Crimea was recognised as an independent entity on March 19, 2014, by Russia.

Russian Intervention

Russia tightened its grip in the peninsula during the clashes in Kiev. On March 21, the Russian Duma passed the 'Foreign Territory Annexation Bill' that made it easier for the territories to join the Russian Federation.⁶ Within

3. During the 'Orange Revolution' in 2004, the Ukraine Parliament passed a law amending the Constitution. These amendments weakened the power of the president of Ukraine, he lost the power to nominate the prime minister of Ukraine and the task was given to the Parliament. The president could only appoint the minister of defence and foreign minister. The president also lost the right to dismiss members of the Cabinet of Ukraine.

4. Ibid.

5. Luke Harding, "Kiev's Protesters: Ukraine Uprising was no Neo-Nazi Power-grab", March 13, 2014. <http://www.theguardian.com/world/2014/mar/13/ukraine-uprising-fascist-coup-grassroots-movement>. Accessed on May 20, 2014.

6. "Foreign Territory Annexation Bill on State Duma Agenda for March 21", March 12, 2014. <http://www.themoscowtimes.com/news/article/foreign-territory-annexation-bill-on-state-duma-agenda-for-march-21/495946.html>

The pro-Russian sentiment which is strong in eastern Ukraine saw the referendum of Crimea and its accession to Russia as an opportunity to return to the shared legacy of Russia.

days of the Crimean Parliament declaring its intention to go for a referendum, on March 16, the ethnic Russian population backed the proposal to join Russia, following which Russia too recognised Crimea as part of the Russian Federation. The Crimean referendum was justified as a referendum under international law as the declaration mentioned the referendum of Kosovo and its outcome.

Hence, through the referendum, Crimea joined Russia and adopted the Russian ruble as its currency within a month. Crimea moved to Moscow time (GMT+4 and two hours ahead of Kiev time) since March 30. The accession enabled the Crimean Army to join the Russian military. Crimea also moved quickly to renationalise private property and two major energy companies, Chornomornaftohaz and Ukrtransgaz, and set up a new central bank, with millions of Russian rubles.⁷

Domino Effect of Crimean Referendum

The call for “Greater Novorossiya” led to a domino effect of the Crimean uprising in eastern Ukraine which includes the following provinces in addition to Crimea: Donetsk, Lughansk, Kharkiv, Zaporizhia, Kherson, Mikholaiv and Odessa.⁸ The pro-Russian sentiment which is strong in eastern Ukraine saw the referendum of Crimea and its accession to Russia as an opportunity to return to the shared legacy of Russia. On April 7, 2014, protesters occupied government buildings in the eastern cities of Donetsk, Lugansk and Kharkiv. Although the Kharkiv building was retaken the following day, the occupation spread to other cities such as Mariupol, and Odessa. Pro-Russian leaders declared referenda in Donetsk and Lugansk

7. “After Secession Vote, Crimea Moves in on Energy Companies, Banking, Land”, March 17, 2014. <http://www.foxnews.com/world/2014/03/17/crimea-official-says-66-percent-voters-support-joining-russia/>

8. Adrain A Basora and Aleksandr Fisher, “Putin’s “Greater Novorossiya: The Dismemberment of Ukraine”, Foreign Policy Research Institute, April 2014, p. 1.

on granting greater autonomy to the eastern region.⁹ The interim Ukrainian government, however, refused to recognise the outcome of any vote in the eastern part of Ukraine. But the Donetsk People's Republic was focussed on creating a larger entity, carved out of southern and eastern Ukraine to be called *Novorossiya*, or "New Russia," using Czarist Russia's name for the region.¹⁰

UNDERLYING FACTORS

What is happening in Ukraine is complicated and driven by many factors apart from those mentioned above. For understanding the underlying factors, this section is divided based on internal determinants and external factors in determining the Ukraine crisis.

Demographic Split of Ukraine

In the domestic inferences, the demographic divide of Ukraine is a case in point. Since its independence in 1991 from the Soviet Union, Ukraine has been torn between east and west, and politically divided along ethnic-linguistic lines. While Ukrainian is the main language in the western regions, Russian is predominant in parts of the east and south.¹¹

Roughly speaking, about four out of every six people in Ukraine are ethnic Ukrainians and speak the Ukrainian language. Another one in six is an ethnic Russian and speaks Russian. The last one-in-six is ethnic Ukrainian but speaks Russian. Nearly 80 percent of the Ukrainian population prefers to speak in the Russian language. The attitude and division of the Ukrainian population is further reflected in the voting patterns during national

Since its independence in 1991 from the Soviet Union, Ukraine has been torn between east and west, and politically divided along ethnic-linguistic lines. While Ukrainian is the main language in the western regions, Russian is predominant in parts of the east and south.

9. Ukraine in Maps: How the Crisis Spread", May 9, 2014. <http://www.bbc.com/news/world-europe-27308526>

10. "Donetsk Rebels' 'Novorossiya' Fits Russian Vision of Reshaped Europe in 2035". Source: <http://springtimeofnations.blogspot.in/2014/04/donetsk-rebels-novorossiya-fits-russian.html>

11. Ibid.

elections. People from districts dominated by the majority group (Ukrainian-speakers who are ethnically Ukrainian) tend to vote for one candidate. And people from districts with ethnic Russians or Russian-speakers as a majority tend to vote for the other candidate. The results of Ukraine's 2004 and 2010 presidential elections can be cited as evidence to bolster this argument. In both cases, it was a clear case of a regional divide.¹²

It is important to carry out a brief historical survey about Ukraine as a state, especially the plight of ethnic Russians in the region, in order to gain a better perspective on the current Ukraine imbroglio. This will also help in evaluating the claim by both Russia and Ukraine that they have a historical precedent to support their positions on the issue.

A Brief Historical Survey

Around the 9th century, the Russian state was constructed around Kiev which also happened to be the first capital. The population comprised eastern Slavs who were orthodox Christians. During the 12th and 13th centuries, Kievan Russia consisted of two main principalities: the western and eastern. The western principalities were called Galystia and Wolyn and the eastern was called Vladimir (present Moscow). The western principalities were more engaged with European politics while the title of Great Princes was held in the east by the royalty who were considered to be the masters of the whole of Russia. After the fall of the Tartars, Moscow principality's rating was affirmed as a regional hegemon. As for the west, during this period, it had lost all trace of freedom as it came under the rule of Lithuania, Austria, and Hungary and then even Romania. On the other hand, the growth of the Muscovite Empire integrated all the Cossack lands (Novorossiia) which included eastern and southeastern Ukraine and southwestern Russia.

The Muscovite Empire, little by little, liberated western Russia from the Poles and Germans. They believed that they were restoring the old Russia, Kievan Russia, uniting all orthodox Slavs – east and west – in this unique kingdom. During the 8th-9th centuries, the Crimean War of 1853-

12. Max Fisher, "This One Map Helps Explain Ukraine's Protests", December 9, 2013. <http://www.washingtonpost.com/blogs/worldviews/wp/2013/12/09/this-one-map-helps-explain-ukraines-protests/>

56 saw France, Britain and the Ottoman Empire pitted against the Russian Empire to push back against the perceived Russian influence in Europe through its warm water policy. The unification of western Russian lands was accomplished with the annexation of Crimea from the Ottoman Empire. After the 1917 October Revolution, the Bolsheviks restored the lands of the Tsarist Empire and declared it as the Soviet Union. The Soviet Union then artificially created the Ukraine Soviet Socialist Republic (SSR).

The three lines of descent in modern Ukraine post- the Soviet collapse have continued in the population. Prior to the collapse of the Soviet Union in 1991, Ukraine never existed as an independent state within its current borders. But the problematic area starts here with the chosen identity of the newly created state of Ukraine which was dominated by the western Galystia and Wolyn identity with no place for the Novorossiia and Great Russian identity. This particularity was expressed in two opposite geo-political options: western with European integration and eastern with Russia integration. This has continued to haunt the present Ukraine as evident in the recent ethnic mobilisation, the demand for secession and the referenda in Crimea, Donetsk and Luhansk.¹³

Economic Crisis of Ukraine

Following the 2008 recession, Ukraine's Gross Domestic Product (GDP) declined by 15 percent and what was once an emerging economy was majorly hit by the economic crisis. This brought a sudden end to the rapid economic growth of Ukraine. By November 2013, a desperate Yanukovych was in search of between \$20 to \$35 billion in loans and aid from all possible sources: the EU, Russia, the US, the International Monetary Fund (IMF), as well as China. Moreover, integration with the European Union or Russia for the revival of Ukraine from the brink of bankruptcy and a crippled economy was dependent on the Rada (the Parliament of Ukraine).¹⁴ While Russia was

13. The brief explanation on the historical survey of Ukraine as a state is taken from the article by Alexander Dugin, "Letter to the American People on Ukraine", March 8, 2014. <http://openrevolt.info/2014/03/08/alexander-dugin-letter-to-the-american-people-on-ukraine/> Accessed on May 16, 2014.

14. Alan Mayhew, "The Economic and Financial Crisis: Impacts on an Emerging Economy – Ukraine", Sussex European Institute, SEI Working Paper No 115, 2010, p. 5.

willing to offer \$15 billion and cheap natural gas¹⁵, it was resolutely and quite rapidly putting together the Eurasian Customs Union. The European Union, on the other hand, had painstakingly negotiated the details of the association agreement with Ukraine over several years as the agreement was the central pillar of its much-vaunted Eastern Partnership¹⁶.

The hardest hit areas of the recession in Ukraine were undoubtedly the industrialised areas of eastern Ukraine, where the sudden decline in demand for the products of heavy industry had particularly severe effects on employment, and, therefore, on poverty.¹⁷ Ukraine's industrial heartland soon witnessed the demand for secession from Kiev to join Russia, as these regions faced a severe impact during the recession in 2009; moreover, Ukraine lost popular support when it failed to address the worsening economic situation in these pro- Russian regions.

Ukraine's Dilemma

Ukraine's foreign policy since independence in 1991 has been characterised by a single central feature: a reluctance to commit to one side or the other. Association with the EU or integration with Russia with which it shares historical and cultural linkages has resulted in Ukraine struggling to create its own identity. In the east and south of Ukraine, Soviet values were still solid and the Great Russian identity was, in turn, the overwhelming feeling.¹⁸

In western Ukraine, anti-Sovietism was deeply rooted and prevented any attempt of the south and east to express their own vision. Turning to Russia meant the exclusion of the European option, hence, the fury in Kiev. Furthermore, Ukraine also has been a key factor in Putin's vision for the Eurasian Union with its steel mills, coal plants, bountiful agricultural resources, and a massive population of 46 million people. Hence, Ukraine

15. Andrew Higgin, "With President's Departure, Ukraine Looks Toward a Murky Future", February 22, 2014. <http://www.nytimes.com/2014/02/23/world/europe/with-presidents-departure-ukraine-looks-toward-a-murky-future.html>

16. Katranya Wolzuck and Roman Wolzhuk, "What You Need to Know About the Causes of the Ukrainian Protests", December 9, 2013. <http://www.washingtonpost.com/blogs/monkey-cage/wp/2013/12/09/what-you-need-to-know-about-the-causes-of-the-ukrainian-protests/>

17. Mayhew, n. 14, p. 11.

18. Dugin, n. 13.

would provide the necessary anchor of any successful version of the Eurasian Union.¹⁹ For a while now, Kiev has been struggling to link itself with Europe or Russia, even though the aim of a sovereign country like Ukraine should have been to create a 'united Ukrainian identity'.

Crimea: The Contested Zone

Crimea has always has been of great importance to Russia as it shares a historical and cultural umbilical cord with Russia.²⁰ Historically, Russia never reconciled with the peninsula being separated from the authority of Moscow which it regarded as a historical injustice, especially after the controversial move by the then Soviet leader Nikita Khrushchev of transferring Crimea from Russia to the Ukraine SSR as a 'symbolic gesture' marking the 300th anniversary of Ukraine becoming a part of the Tsardom of Russia²¹. There was much debate about the fate of Crimea then as this was done without a referendum, although the population never really questioned the transfer as Simferopol was a federal city under the Moscow authority then. As for the strategic relevance, the Great Crimean War took place because of the enormous opportunity to project power into the Black Sea region, and also because warm water naval bases could be built.²² Russia's Black Sea naval fleet is based at Sevastopol and has been there for nearly 230 years—it is the only important warm water port for Russia.²³ The Kiev Administration's interest to join NATO threatened the Russian position in Crimea: a NATO takeover would make Russia vulnerable as it could lead to the possible eviction of Russia's naval fleet and denial of access to its only warm water port.

19. Leon Neyfakh, "Putin's Long Game? Meet the Eurasian Union", March 9, 2014. <http://www.bostonglobe.com/ideas/2014/03/09/putin-long-game-meet-eurasian-union/>

20. Yasmeen Aftab Ali, "Crimea: The New Candy Floss", March 10, 2014. <http://www.pakistantoday.com.pk/2014/03/10/comment/crimea-the-new-candy-floss/>

21. "USSR's Nikita Khrushchev Gave Russia's Crimea Away to Ukraine in only 15 Minutes", February 19, 2009, Pravda. http://english.pravda.ru/history/19-02-2009/107129-ussr_crimea_ukraine-0/

22. Askold Krushelnysky, "Democracy Lab: Crimea's War of Nerves", March 4, 2014. www.foreignpolicy.com/articles/2014/03/04

23. Richard Allen Greene, "Ukraine's Crimea Lives in Russia's Shadow: 5 Things to Know". February 28, 2014. <http://edition.cnn.com/2014/02/27/world/europe/ukraine-crimea-5-things/> Accessed on May 23, 2014

Ukraine occupies a sensitive position between Russia and the NATO member states of Poland, Slovakia, Hungary, and Romania, and that adds to its geo-strategic significance.

In May 1997, Russia and Ukraine resolved years of disagreement to broker a twenty-year leasing arrangement for the Black Sea Fleet to remain in Crimea. In September 2008, in response to the Russian Defence Ministry expressing a desire to extend the lease beyond 2017, the then Prime Minister, Yulia Tymoshenko hinted at denying the request. However, under the presidency of Viktor Yanukovich, in April 2010, the two countries extended the lease by 25 years, to 2042, in exchange for Russian supply of natural gas to Ukraine at discounted rates.²⁴ Moscow has a lease on the Sevastopol port till 2042, for which Ukraine received a handsome \$98 million per year.²⁵ The interest of the Kiev Administration to join NATO, therefore, was a threat to the Russian position in Crimea.

UKRAINE: THE POLITICAL THEATRE

Ukraine occupies a sensitive position between Russia and the NATO member states of Poland, Slovakia, Hungary, and Romania, and that adds to its geo-strategic significance. Ukraine's future membership in NATO would be a major blow to the Russian Eurasian Customs Union. On the other hand, integration with Russia would strengthen Moscow manifold with its resources and population and, more importantly, would fortify its energy transit route to the European states. The following section of the paper will take a look at the three major players in the region.

NATO's Expansion

The relations between Russia and the US have been far from good or normal. The US led NATO's policy in the former Soviet space has always been an irritant for the Russian mindset. The existence of NATO and redefining of its agenda in the former Soviet space even after the annulment of the

24. Smith and Harari, n. 1, p.20.

25. Ali, n.20.

Warsaw Pact, resulted in Russia's displeasure. Hence, Russia's repeated interventions in its former zones of influence are seen as a means to weaken or subordinate its neighbouring governments like Ukraine and keep them out of the orbit of the US led NATO alliance. NATO's influential role in the former Soviet space, coupled with the deployment of US missile defence systems or radar systems in Poland, the Czech Republic and Turkey, were regarded as threats. In addition, the 'Orange Revolution' sponsored by the West, and NATO's offer of membership to Ukraine and Georgia in 2008 during the Bucharest Summit did not go down well with Russia. It was in the same summit that Putin had rhetorically threatened the territorial integrity of Ukraine.²⁶

One of the major factors for the recent Ukraine crisis is Moscow's fear that a closer association agreement between the EU and Ukraine will prove to be trade diverting and not trade creating for Russia.

EU Enlargement

Russia has been wary of EU initiatives in the Black Sea, and believes that policies such as the Eastern Partnership are an extension of the EU's sphere of influence in the region.²⁷ One of the major factors for the recent Ukraine crisis is Moscow's fear that a closer association agreement between the EU and Ukraine will prove to be trade diverting and not trade creating for Russia. With the signing of such a treaty, EU goods will be able enter Ukraine, free of import duties and this can affect the market for Russian domestic goods. Furthermore, European and American transnational companies could also edge out Ukrainian firms linked to Russia, especially in the military industries and high-tech areas, generally located in eastern Ukraine.²⁸ The EU initiative through the EU Eastern Partnership since 2009 brought six Eastern European neighbours, Armenia, Azerbaijan, Belarus,

26. Hall Gardener, "NATO, the EU, Ukraine, Russia and Crimea: The 'Reset' that was Never 'Reset'", NATO Watch, Briefing Paper no. 49, April 3, 2014, p. 5. www.natowatch.org

27. Mustafa Aydın-Sinem A. Açıkmeşe, "EU Engagement in the Black Sea: The Views From the Region", Centre for European Strategy, Warsaw, 2011, p. 10.

28. Gardner, n. 26, p. 6.

The total population of Greater Novorossiya would be approximately 21 million. This would be a sizeable potential addition to the Customs Union with Russia, and would give Moscow even stronger economic leverage against the European Union.

Georgia, Republic of Moldova together, and Ukraine was viewed by Russia as drawing these countries away from the Russian zone of influence and tilting their political-economic allegiance towards Europe.²⁹

Russian Consolidation

At the heart of the ongoing crisis in Ukraine and the overwhelming majority vote by Crimea to accede to Russia, is a desire by Putin to increase Russia's political, military and economic influence in its 'near-abroad',

including strategic control of the Black Sea which Russia lost to Ukraine with the disintegration of the Soviet Union. Furthermore, the fall of Ukrainian President Viktor Yanukovich threatened Russia's position in the Crimea where its Black Sea fleet is harboured under a long-term lease with Ukraine. Russia's intentions in its sphere of influence are to maintain strategic military assets in the Crimea and undermine the new pro-Western administration in Kiev.³⁰ Since the post-Cold War era, Russia has consolidated its position on the international stage through its foreign policy that coincided with its economic policies and geo-political interests. One of the primary priorities of its foreign policy has been the protection of the interests, lives and dignity of ethnic Russians wherever they are located. Hence, time and again, Russia has justified its aggressive posture which was evident in the 2008 Georgian crisis and the recent Crimean uprising.

Moreover, Putin's call for "Greater Novorossiya" refers historically to a large part of the present Ukraine which was controlled by the Soviet Union until its break-up. The Orange Revolution was a deep shock to the Moscow Administration but the lustre of this revolution quickly wore off once its leaders failed to live up to their reformist promises, the Ukrainian

29. Ibid., p. 7.

30. Grant Webster and Sergey Bolshakov, "The Russia-Ukraine Crisis", March 4, 2014. www.investecassetmanagement.com Accessed on April 13, 2014

economy spiralled downward, and corruption remained rampant. The total population of Greater Novorossiia would be approximately 21 million. This would be a sizeable potential addition to the Customs Union with Russia, and would give Moscow even stronger economic leverage against the European Union.³¹

INTERNATIONAL RESPONSE TO UKRAINE CRISIS

The reunification of Crimea with Russia by a way of a referendum has become the new battleground for the West and Russia. As a reaction to Russia's military intervention in Crimea, the West warned Russia by cancelling the G-8 Summit scheduled to be held in Sochi.³² The West also views Russia's role in the Kiev clashes as a violation of the Budapest Memorandum. According to the agreement, after the dissolution of the Soviet Union, Ukraine, along with Belarus and Kazakhstan, was left with many of the Soviet Union's nuclear weapons. This was a source of worry after the Soviet Union's collapse.

In 1994, Ukraine, Belarus and Kazakhstan undertook to eliminate all nuclear weapons from their territory and accede to the nuclear Non-Proliferation Treaty (NPT). One of the three Budapest Memoranda of December 5, 1994, the Ukraine Memorandum, was signed by the presidents of Ukraine, the Russian Federation and the United States of America, and the prime minister of the United Kingdom, making assurances to Ukraine on behalf of those countries. The memorandum welcomed the fact that Ukraine was joining the NPT and said that the signatories would respect Ukrainian independence and borders and reaffirmed their obligation to refrain from the threat or use of force against the territorial integrity or political independence of Ukraine. It also claimed that none of their weapons would ever be used against Ukraine except in self-defence or otherwise in accordance with the Charter of the United Nations.³³

31. Basora and Fisher, "Putin's 'Greater Novorossiia' – The Dismemberment of Ukraine", Foreign Policy Research Institute, April 2014, p. 1.

32. Capt Vikram Puri, "Russia Needs to Defend its Security and Stability", *Business Central Asia*, April 2014, p. 27.

33. *Ibid.*, p. 8.

UN Resolution

Strongly condemning the Crimean referendum as illegal and a blatant violation of the Ukraine Constitution, a draft resolution, drawn up by the United States, urged nations not to recognise the results³⁴ of the March referendum. On March 27, 2014, the UN General Assembly passed a non-binding resolution with 100 votes in favour, 58 abstentions and 11 against the resolution.³⁵ The vote gave the Western countries a platform to demonstrate the unity they shared as the Crimean crisis has unfolded. Every European Union member state and most of its candidates for membership voted for the resolution, as did the entire memberships of NATO, the G-7, and the Organisation of Economic Cooperation and Development (OECD), except for Israel. Only 11 countries voted against the resolution: Russia, Armenia, Belarus, Bolivia, Cuba, North Korea, Nicaragua, Sudan, Syria, Venezuela, and Zimbabwe. The abstentions are also worth noting. Four of the five BRICS countries—Brazil, India, China, and South Africa—chose not to take sides on the resolution, as did many African, South American, and Asian countries.³⁶

Targeted Sanctions

The US and the European Union expectedly denounced the Russian intervention and the US and the EU came up with their respective lists of sanctions on Putin's close aides and his loyalists in Crimea. The lists, however, strike at Putin by targeting some of his key allies as they hold the real power in Russia. The US sanctions were imposed on the basis of an executive order which Obama signed that expanded the sanctions' reach to Russian officials and the second order which enabled the Administration to take additional action if Russia did not deescalate the situation. Far beyond the situation in Crimea or even Ukraine, the sanctions order potentially

34. "Russia Vetoes UN Resolution on Ukraine's Crimea", March 15, 2014. <http://www.infowars.com/russia-vetoes-un-resolution-on-ukraines-crimea/>

35. "Russia Calls UN Resolution on Crimean Referendum Counterproductive", *Business Central Asia*, April 2014, p. 33.

36. Matt Fordmar, "The World's Post-Crimea Power Blocs, Mapped", March 29, 2014. <http://www.theatlantic.com/international/archive/2014/03/the-worlds-post-crimea-power-blocs-mapped/359835/>

includes anyone who is “a senior official” in the Russian government, who is involved in “the arms and related material sector in the Russian Federation,” or who has operated “for, or on behalf of, directly or indirectly,”³⁷ any of the above.

The US published lists of individuals and companies hit by travel bans and asset freezes on March 19, March 20, and April 28. The EU’s lists were issued on March 17, March 23 and April 29. The following are details of some of the targeted personalities and close allies of Putin on whom the sanctions are imposed:

Gennady Timchenko: Founder of Gunvor, one of the world’s largest independent commodity trading companies involved in the oil and energy markets, he is also president of the SKA hockey club in St Petersburg.

Igor Sechin: The head of Russia’s leading petroleum company Rosneft.

Arkady Rotenberg and Boris Rotenberg: The Rotenberg brothers have provided “support to Putin’s pet projects” by receiving and executing approximately \$7 billion worth of contracts for the Sochi Olympic Games and the state-controlled energy giant Gazprom, as a result of which their personal wealth has increased by \$2.5 billion.

Yuri Kovalchuk: The largest single shareholder of Bank Rossiya, Mr Kovalchuk is one of Russia’s 100 richest men.

Sergei Ivanov: He has been chief of staff of the Presidential Executive Office since 2011. Mr Ivanov was defence minister from 2001 to 2007, and then became first deputy prime minister and secretary of the Security Council.

Vladimir Yakunin: He was appointed chairman of Russian Railways in 2005. Mr Yakunin regularly consults with President Putin on issues regarding the state-owned company and accompanies him on many domestic and international visits, according to the US Treasury. He was

37. Karen DeYoung and Griff Witte, “Russia Recognizes Crimea’s Independence, Defying New U.S. and E.U. Sanctions”, March 22, 2014. http://www.washingtonpost.com/world/national-security/us-eu-announce-sanctions-following-vote-in-ukraine/2014/03/17/3223799c-add9-11e3-a49e-76adc9210f19_story.html. Accessed on May 23, 2014.

The response of the West and the European Union, especially with targeted sanctions, will have little impact on Russia and cause minimal disruption to the Russian economy.

also in charge of major construction projects for the Sochi Winter Olympics.³⁸

SUMMATION OF THE UKRAINE IMBROGLIO

Failure of 'Reset' Between Russia and West

Despite both the West and Russia acting as key partners on global issues such as combating terrorism, it is ironical that as influential players in the global community, the relations between these countries are disappointing. The Crimean crisis further reveals the complete failure of the West and Russia to find a path toward defence and security cooperation in the post- Cold War era.³⁹ While NATO and the EU see Russia's claim in Ukraine as illegal and a continuation of its Cold War policy of hegemonic control of the former Soviet space, Russia, on the other hand, views the collaboration of NATO and EU in its "Near Abroad" as "containment" of Russia in its zone of influence.

Opposition to NATO enlargement is seen as the primary means to achieve a new post- Cold War system of Euro-Atlantic security. For instance, the US' and NATO's refusal to incorporate Russian concerns during NATO's intervention against Russia's ally, Serbia, in the war over Kosovo in 1999, led to a backlash against NATO and the US. Moscow subsequently denounced Kosovo's declaration of independence from Serbia. In a tit-for-tat response to US recognition of Kosovo, Moscow then backed the independence of Abkhazia and South Ossetia after the 2008 Georgia-Russia War.⁴⁰

The Dependency

The response of the West and the European Union, especially with targeted sanctions, will have little impact on Russia and cause minimal disruption

38. "Ukraine Crisis: Russian Officials Targeted by Sanctions", April 29, 2014. <http://www.bbc.com/news/world-europe-26672800>

39. Gardner, n. 26, p.1.

40. Ibid., p. 4.

to the Russian economy. While Washington has been keen to tighten the pressure on Russia, the European nations are resistant, given their dependence on Russian energy stocks and in the light of commercial ties between European and Russian firms.⁴¹

Russia is Europe's main energy supplier, as it supplies about 30 percent, of Europe's natural gas and 35 percent of its oil imports. Given the substantial trade and economic cooperation between Russia and the members of the EU, any form of sanctions with regard to the energy markets of Russia will lead to major repercussions on both the region's and the market's security. For instance, German-Russia trade alone is worth Euros 73 billion and Russia supplies natural gas to Germany through the northern stream gas pipeline. The EU as a whole depends to the extent of 20 per cent of its energy needs on Russia. Over 6,000 German companies do business in Russia.⁴²

Moreover, the US and EU are divided over the use and extent of sanctions. The EU is reluctant to press harder with sanctions because Russia is its biggest oil and gas supplier, and, in fact, is not expected to impose sanctions on officials in Putin's inner circle. The division between the US and the EU could limit the impact of the sanctions. There are four energy companies that could be affected by the new sanctions. The companies include the London-based BP PLC (LON:BP); Exxon Mobil (NYSE:XOM); the Norwegian Statoil (NYSE:STO); and Eni (BIT:ENI), Italy's national oil company. All have large research deals with Rosneft (MCX:ROSN), one of the Russian companies targeted by the sanctions. The shares of BP, which has a stake of about 20 percent in Rosneft, fell 0.98 percent in London. Rosneft shares also fell, by 1.7 percent.⁴³

41. Brin Branco, "New Russia Sanctions Will Have Little Impact, Experts Say", International Business Times, April 28, 2014. <http://www.ibtimes.com/new-russia-sanctions-will-have-little-impact-experts-say-1577384>.

42. Arvind Gupta, "Crimean Crisis: A New Phase of Cold War?", Institute for Defence and Strategic Analysis, March 21, 2014, p.3, http://idsa.in/idsacomments/CrimeancrisisANewPhaseofColdWar_agupta_210314

43. Branco, n. 41.

Is Russia Prepared

The showdown in Crimea will reassert Russia's emerging global status. It is perceived in Russia as a restoration of lost glory after the disintegration of the Soviet Union. It has, however, given rise to several questions about whether Russia is capable of investing in Crimea's economic aspirations, especially as Russia is still grappling with its own economy. Crimea is not just home to ethnic Russians but also to ethnic Ukrainians and Muslim Tartars who are still fearful of a revival of the persecution they suffered during the Soviet rule. This can act as a catalyst to ethnic clashes within the Russian territory.

In addition, the Eurasian Union is Putin's ambitious dream which is designed not only as an economic alternative to the European Union, but also as a philosophical mission to make Russia and its neighbours the centre of their own geo-political landscape. So far, Belarus and Kazakhstan are members of the Customs Union, an economic bloc formed in 2010 as a precursor to the Eurasian Economic Union, which will itself be formed in 2015. Armenia, Kyrgyzstan and Tajikistan are also expected to become members and Russia had hopes that Ukraine and even Georgia might join. Russia's intervention in the Ukraine imbroglio may hamper its idea of 'reconsolidation' of the former Soviet Republics.⁴⁴

Failure of Ukraine to Create 'Pan-Ukraine Identity'

After the fall of the Soviet Union, the Newly Independent States (NIS) got the opportunity to reorient their identities, in practice developing national consciousness, including a Ukraine identity. There are two nations, two societies. They always vote in opposite ways: the former for a Western (pro-American, pro-European) candidate and the latter for a pro-Russian candidate.⁴⁵ Eastern Ukraine distrusts Kiev's intentions, especially after the interim government sought to ban the Russian language, while a significant

44. Dave, "Why Kazakhstan and Belarus are Watching Crimea Very, Very Carefully", March, 25, 2014. <http://beapatriot.wordpress.com/2014/03/25/why-kazakhstan-and-belarus-are-watching-crimea-very-very-carefully/> Accessed on May 17, 2014

45. Alexander Dugin, "The Crimean Way", April 9, 2014, <http://openrevolt.info/2014/04/09/alexander-dugin-the-crimean-way/>

percentage speaks the language fluently. Western Ukraine, on the other hand, feared the option of Russian integration when the pro-Russian leader, Yanukovich preferred signing the Russian trade deal over the association agreement proposed by the European Union.

In this scenario, it is ironical that such circumstances have led to the '*geography of fear*' in both the divided regions: they live in constant fear of being subjugated or, in a worst case scenario, having their identity eliminated. This fear has led to a *ghettoisation of the minds* where both the parties concerned have developed the mindset of 'us' and 'them', 'we' and 'the other' and, hence, fail to identify as a community as a whole. Under such circumstances, the split demography of Ukraine has only become '*tolerant*' of the 'other' instead of '*acceptance*' of their respective identity. All these factors have finally resulted in *ethno-political mobilisation* and a violent uprising in Ukraine.

UKRAINE IMBROGLIO: DOES IT AFFECT INDIA?

Bilateral Indian-Russian ties are very extensive. At the present moment, India is the largest importer of arms, 75 percent of which are provided by Russia. In the economic sphere, Russian-Indian trade is also growing at a vigorous pace: they have signed a bilateral nuclear agreement worth billions of dollars. The annexation of Crimea to Russia on March 18, 2014, put India on the horns of a dilemma.⁴⁶ Taking an active position against Russia could harm New Delhi's relations with its old ally, for decades a source of diplomatic support for India in the international arena, the largest supplier of arms to the Indian Army, and a source of technology. On the other hand, India's growing proximity to the US could antagonise Washington which may also result in hampering relations between the two countries.⁴⁷

India's Response to Ukraine Crisis

- At a press conference, India's National Security Adviser Shivshankar

46. Alexander Rogozhin, "India and the Crimean Crisis – Old Friends are Better than New", April 10, 2014. <http://journal-neo.org/2014/04/10/rus-indiya-i-problema-kry-ma-stary-j-drug-luchshe-novy-h/>

47. Ibid.

Menon publicly stated that Russia has “legitimate interests” in Crimea.⁴⁸

- India abstained from voting in the United Nations General Assembly (UNGA) resolution on Crimea on March 27, 2014.⁴⁹
- India as part of the BRICS countries declared in a joint statement that it does not consider sanctions and counter-sanctions to be the appropriate response to the Crimean issue and that a political dialogue is the best answer.⁵⁰
- India, along with Brazil, China and South Africa, opposed any restrictions on the participation of Russian President Vladimir Putin at the G-20 Summit in Australia in the wake of the Crimean issue.⁵¹

Reasons for India's Response to Ukraine Crisis

- The Ukraine Resolution was drafted by Canada, Costa Rica, Germany, Lithuania, Poland and Ukraine.⁵² The decision by New Delhi not to support the sanctions imposed on Russia by the USA and the European Union conforms to its policy of supporting only sanctions imposed by a UN decision.⁵³
- Abstention of votes showed solidarity on the part of the BRICS member states, with China, Brazil and South Africa also on the same page as India,⁵⁴ by not isolating Russia.
- India does not want to interfere in the internal affairs of another country as it touches a raw nerve in the Indian strategic thought. Thus, voting against the Ukraine Resolution would be a compromise by India on the “political independence, unity and territorial integrity of Ukraine within its internationally recognised borders”.⁵⁵

48. Ibid.

49. Rajeev Sharma, “India’s Abstention on Ukraine Resolution Does Not Mean Neutrality”, *Business Central Asia*, April 2014, p. 32.

50. Jhinuk Choudhary, “How India’s ‘Balanced’ Stance on Crimea Strengthens the Russian Case”, April 2, 2014. <http://rt.com/op-edge/india-crimea-balanced-stance-russia-885/>

51. Ibid.

52. Yogitha Singh, “UN Adopts Resolution Backing Ukraine’s Territorial Integrity”, March 27, 2014. <http://www.outlookindia.com/news/article/UN-Adopts-Resolution-Backing-Ukraines-Territorial-Integrity/834395>

53. Rogozhin, n. 46.

54. Sharma, n. 49, p. 32.

55. Ibid.

- The issue at the core of the Crimean crisis is whether the referendum held in the autonomous Republic of Crimea is valid or not. Taking sides in this referendum would put New Delhi in an uncomfortable situation and could lead to possible political and diplomatic repercussions domestically, especially on the longstanding issue of Jammu and Kashmir.
- The government tried to balance its position in the international arena by declaring that New Delhi, in principle, does not support referenda specially as the single justification for the disintegration of a country.
- While India's intention is not to leave Russia in the lurch at this moment of crisis in Ukraine, it should also be understood that there is a diplomatic facet of the whole episode which pertains to India-Ukraine bilateral relations.⁵⁶ While India-Ukraine relations may not be a priority of the Indian diplomatic establishment as the bilateral trade is minuscule (only \$3.1 billion),⁵⁷ compared to Russia, India believes in valuing all its bilateral relations equally.

BRICS can play the role of a bridge-builder between Russia and the West as there is a need to address the conflict from a non-violent and peace perspective.

APPROACH TO UKRAINE IMBROGLIO

Federalism

The foundation for politically addressing the various dimensions of the crisis in Ukraine includes the possibility of redefining the autonomy status within the constitutional parameters set by the Ukrainian and autonomous regional Constitutions. Federalisation is one condition upon which Ukraine can address the ongoing crisis in its region. If Russia and Ukraine can pull back from the brink of a large-scale violent conflict, the crisis is likely to

56. Rajeev Sharma, "Early End to Ukraine Crisis Will be in India's Interest", *Business Central Asia*, March 5, 2014, p. 36.

57. Choudhary, n. 50.

revive the discussion about the principles of regional autonomy and, perhaps, federalism. For a country the size of Ukraine, this could prove a fruitful avenue for managing its regional diversity, and the crisis could ultimately pave the way toward a more constructive engagement with the idea.⁵⁸

Greater Role by BRICS

The BRICS members, excluding Russia, not only abstained from voting in the UNGA Ukraine Resolution but also opposed the idea of banning Russia's participation in the forthcoming G-20 summit. It is important to note that the role of the BRICS, though relatively new, would nevertheless be impactful for its emphasis on dialogue and reconciliation. Emphasis on the role of the United Nations and opposition to sanctions have not only increased its visibility and role in international arena but also elevated the BRICS as global players. The BRICS can play the role of a bridge-builder between Russia and the West as there is a need to address the conflict from a non-violent and peace perspective. BRICS can be a balancer of values between the East and West, an enforcer of dialogue and deliberation, while, at the same time, playing a role to offset policies that aim to destabilise the global order.⁵⁹

While many analysts view the ongoing crisis in Ukraine as a new battleground of interests, it is in my opinion more of a 'global lab'. If Ukraine and the international community work together to resolve the crisis in a diplomatic and peaceful manner, it would be a success of conflict-prevention. The outcome in Ukraine would set an example for many countries which have struggled to find solutions to the long standing ethnic crises in their respective regions.

58. "Crimean Autonomy: A Viable Alternative to War", March 3, 2014. <http://www.washingtonpost.com/blogs/monkey-cage/wp/2014/03/03/crimean-autonomy-a-viable-alternative-to-war/>

59. Debidatta Aurobinda Mahapatra, "BRICS Play Role as Global Balancer", Russia and India Report, March 26, 2014. http://in.rbth.com/world/2014/03/26/brics_play_role_as_global_balancer_34025.html Accessed on May 12, 2014

DECONSTRUCTING AL QAEDA'S TERRORIST NETWORK IN INDIA

AERSH DANISH

Al Qaeda is characterised by a broad based ideology, a novel structure, a robust capacity for regeneration and a very diverse membership that cuts across ethnic, class and national boundaries. It is neither a single group nor a coalition of groups: it comprises a core base or bases in Afghanistan, satellite terrorist cells worldwide, a conglomerate of Islamist political parties, and other largely independent terrorist groups that it draws on for offensive actions and other responsibilities.¹

INTRODUCTION

The tentacles of terrorism grasp no single state today and all nations have been its victim in some way or the other. Transnational terrorism has developed into a global enemy whose forces are operating over the map, coordinating their move from one point while the execution occurs at another. And this is not facilitated by a single organisation. Instead, terrorist organisations, today, operate in tandem with each other, forming linkages and alliances, which are a result of not just a convergence of ideologies but of pragmatic necessity. Inter-connections amongst terrorist groups form an arrangement that is held together by the flow of information and resources

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1. Rohan Gunaratna, *Inside Al Qaeda: Global Network of Terror* (New Delhi: Lotus Collection, 2011) p. 54.

Although formed in the early 1980s, the group rose to prominence with the infamous 9/11 attacks, which gave it the opportunity to create such a network by linking with other groups, and influencing their functioning in various ways.

that increasingly facilitates the planning and execution of terror attacks.

Interestingly, alliances amongst terrorist groups is a considerably new phenomenon, paired primarily with the rise of Al Qaeda. Although formed in the early 1980s, the group rose to prominence with the infamous 9/11 attacks, which gave it the opportunity to create such a network by linking with other groups, and influencing their functioning in various ways.

Terrorist groups in India too are part of this grid, wherein they are under the suzerainty of Al Qaeda in one manner or the other. Although Al Qaeda has never ventured directly into India², it has acted through its affiliates, that have organised a range of terror strikes in the nation. But this network in India is not necessarily supported by a similarity in ideology. This is because India figures on Al Qaeda's radar mostly due to the prevalence of the Hindu religion among the population. Al Qaeda and the other Islamist terrorist groups often claim that the Muslims in India are oppressed and use this argument to validate their involvement in the region.³ However, almost all its affiliates that operate in the region support the secession of the state of Jammu and Kashmir from India and its annexation into Pakistan. For many of them, establishment of a pan-Islamic rule in India becomes a secondary aim, and is used more as a tool to gather support and seek recruits to fight for their primary aim, which is the breaking away of Kashmir from the Indian state.

The limitation of means is a major problem that these local groups face, and that is why they seek alliances with much more capable groups such as Al Qaeda. Aligning themselves with stronger groups provides not just

2. Some analysts have argued that Al Qaeda has an official arm in India too called Al Qaeda al Hind, however, such reports have not received much backing. See <http://www.sunday-guardian.com/news/al-qaeda-finds-base-in-india-modi-is-on-its-radar>

3. Animesh Roul, "Al Qaeda's Latest Bid to Woo Indian Muslims", ISN, October 17, 2013. See, <http://www.isn.ethz.ch/Digital-Library/Articles/Detail/?id=170939>

moral support, but also ensures availability of greater resources. In exchange, Al Qaeda is able to exercise its dominance and control over a wider geographical space and gets access to the local workforce and regional resources, mainly in the form of information and, sometimes, money. Thus, the alliance is beneficial to both sides.

As this paper explains, such a network operates at various levels providing for an hierarchical structure, which although not strictly followed, ensures a flow of command. Various groups form this network, including some charity organisations and transnational bodies, and even state organisations. Together, they create a complex mechanism to orchestrate an attack with maximum efficiency.

In the Indian context, the Unlawful Activities (Prevention) Amendment Act, 2008, defines a terrorist act as anything “with intent to threaten or likely to threaten the unity, integrity, security or sovereignty of India or with intent to strike terror or likely to strike terror in the people or any section of the people in India or in any foreign country.”

DEFINING TERRORISM

Before the commencement of the study, it is essential to define terrorism, to limit the scope of the paper. Terrorism as a concept is heavily debated and scholars have, over the years, defined it differently. This study concerns itself with the terrorist groups which operate in India, and their association with Al Qaeda. In this regard, terrorism has been defined as per Title 22 of United States Code set up by the United States’ Department of State, which terms terrorism as: “premeditated, politically motivated violence perpetrated against non-combatant targets by subnational groups or clandestine agents.”⁴ This code also specifies that international terrorism is “terrorism involving the citizens or territory of more than one country.”⁵

In the Indian context, the Unlawful Activities (Prevention) Amendment Act, 2008, defines a terrorist act as anything “with intent to threaten or

4. Glossary, US Department of State. See <http://www.state.gov/j/ct/info/c16718.htm>

5. Ibid.

likely to threaten the unity, integrity, security or sovereignty of India or with intent to strike terror or likely to strike terror in the people or any section of the people in India or in any foreign country.”⁶ This Act was further amended in 2012 to include “economic security, including financial, monetary and fiscal stability.”⁷ This amendment was essential because in 2010, India joined the Financial Action Task Force (FATF)⁸, which is an inter-governmental body seeking to fight money-laundering and terrorist financing.

TRANSNATIONAL TERRORISM

In December 2001, security forces found blueprints in the residence of an Al Qaeda leader in Afghanistan, for attacks to be carried out in Singapore by the Jemaah Islamiyah (JI).⁹ This example demonstrates how the terrorist groups are interlinked all over the world, coordinating and executing attacks while providing assistance to one another. In this case, JI contributed manpower, training grounds and safe havens outside the Middle East for Al Qaeda members, while receiving equipment, logistical expertise and training. Such cooperation allowed the JI to execute attacks like the Bali bombings.¹⁰

Similarly, the Mumbai attacks of 2008 were not orchestrated by the Lashkar-e-Tayyeba (LeT) alone. Although the perpetrators were members of the LeT, the planning of the attack was done in consultation with leaders of Al Qaeda such as Ilyas Kashmiri¹¹, who coordinated with the American (of Pakistani origin) terrorist David Coleman Headley, who had connections with various other terrorist groups in the region. There was also considerable input from state agencies such as Pakistan’s intelligence agency, the Directorate for

6. The Unlawful Activities (Prevention) Amendment Act, 2008, Government of India, at http://mha.nic.in/hindi/sites/upload_files/mhahindi/files/pdf/UAPA-1967.pdf

7. Ibid.

8. Annual Report, 2011-12, Ministry of Home Affairs, Government of India, p. 40

9. Summary of Case Against Jemaah Islamiyah (Singapore), Report, Ministry of Home Affairs, Government of Singapore, 2002, p. 1.

10. Michael C. Horowitz and Philip B. K. Potter, “Allying to Kill: Terrorist Intergroup Cooperation and the Consequences for Lethality”, *Journal of Conflict Resolution* (California: Sage, 2014), vol. 58, no.2, p. 200

11. Bruce Riedel, *Deadly Embrace: Pakistan, America and the Future of Global Jihad* (Washington D.C: Brookings Institution Press, 2011), p. 101.

Inter-Services Intelligence (ISI).¹² It was months of planning, done by people transcending borders, that made the Mumbai attack possible.

These examples help in understanding the transnational nature of contemporary terrorism. Terrorist groups today do not just operate in the nation where they are located, but are able to function beyond their geographical boundaries. This need not mean that a group is physically present and active in more than one nation. Instead, it refers to the fact that terrorist groups today can carry out attacks whose consequences transverse geographical and political barriers. Even if the attack is localised, the influences are far-reaching. Instead of creating localised fear, terrorist groups today are working to send out a broader message. This is what reflects the transnational nature of modern terrorism.

Al Qaeda's 9/11 attacks marked the beginning of this new face of terrorism. The attack on the World Trade Centre was not just a symbolic destruction of the icon of Western capitalism, but was shocking in the manner in which civilian technology was used to bring about massive destruction. The environment of panic that engulfed the world culminated in Al Qaeda becoming the most feared terrorist organisation. This position allowed Al Qaeda the platform to voice its ideology to the entire world, which had considerable influence over other terrorist groups, even inspiring the otherwise regionally limited terrorist organisations to aspire for more globally oriented goals. As a result, Al Qaeda was able to construct an intricate network connecting itself to the various terrorist organisations and has since been able to influence their activities to varying degrees.

Evidently, terrorist groups do not wish to remain localised, but seek to wield influence over a broader region. By carrying out attacks which are severely damaging, they get international recognition. This perception is then used to promote their ideology in a manner that may influence other groups to join forces with them. Regional groups are also more than willing to participate in this widespread network because it grants them recognition across a wider area, beyond the region wherein they operate.

12. Jason Burke, "Pakistan Intelligence Services 'Aided Mumbai Terror Attacks'", *The Guardian*, October 18, 2010, at <http://www.theguardian.com/world/2010/oct/18/pakistan-isi-mumbai-terror-attacks>

Plus, such a network enhances the functioning of the groups due to sharing of resources and information.

The transnational nature of terrorism is more evident when it comes to the flow of finance and resources to and from these groups. Terrorist groups are funded through complicated channels consisting of various non-governmental organisations, charities, private donations and even legitimate enterprises. Multi-national charitable organisations hold a prime position in this network. Money collected for charity is often diverted and transferred across borders in the name of humanitarian relief or development and then reaches the subsidiaries of these charities from where it reaches the terrorist organisations.¹³ Often, such charitable groups are legitimate bodies and operate across many nations, making the flow of funds even more difficult to track due to differing legalities and the freedom provided to such groups.

For example, groups such as the Al Hamrain Islami Foundation and the Revival of Islamic Heritage Society have been involved in the financial transactions of terrorist groups operating in South Asia.¹⁴ Both these groups operate out of the Gulf region, where they are able to collect money from the wealthy patrons and then are able to move it to South Asia where it reaches the terrorist outfits.

Thus, transnational terrorism becomes the front that comes into existence because of the linkages formed by the terrorist groups. This façade represents the most troubling factor for global peace and security, because it is beyond the ability of any one nation to combat an adversary that spans multiple countries and operates by surpassing geographical and political barriers.

WHY DO TERRORIST ORGANISATIONS FORM NETWORKS?

Cooperation among terrorist groups can be understood in the same way as cooperation among nations or business companies. Various nation-states work together to increase and improve capabilities. For example, cooperation among countries' armies serves to join resources and facilitates

13. Juan Miguel del Cid Gomez, "A Financial Profile of the Terrorism of Al-Qaeda and its Affiliates", *Perspectives on Terrorism* (Online, 2010) v. 4, n. 4, at <http://www.terrorismanalysts.com/pt/index.php/pot/article/view/113/html>

14. Ibid.

the transmission of weapons and knowledge, thereby bolstering mutual power and security.¹⁵ Similarly, business companies cooperate to reduce operational costs and to compete more effectively in the market place.¹⁶ The same is true for terrorist organisations. Just as nations with common goals align with each other, terrorist outfits come together due to similarity in ideologies, which then facilitates cooperation in terms of sharing of resources and capabilities.

Horowitz and Potter state that terrorist groups cooperate to increase their capability to launch effective attacks. By studying different examples of cooperation among terrorist groups, they infer that cooperation increases efficiency. They define efficiency as the number of fatalities inflicted per attack.¹⁷ Fatalities can be used to evaluate the efficacy of terrorist groups because most terrorist organisations seek to demonstrate their capabilities mostly through their ability to kill.¹⁸ This is in collaboration with their ideology to use violence as a means to their ends. Thus, terrorist groups with more linkages are more effective than those with fewer linkages. This is because collaboration diversifies risks and improves capabilities.¹⁹

As stated earlier, cooperation among terrorist organisations is tuned towards pooling resources towards a common goal. But just a common ideology is not sufficient to build an alliance. Horowitz and Potter argue that when groups seek cooperation, they try to seek out groups that have higher capabilities. This results in selective cooperation with only those groups that have demonstrated their capabilities. This results in a core-periphery structure wherein the core has higher capabilities than the periphery. Due to the selective affinity of groups to ally with the core, the periphery gets left behind. This results in a situation wherein the “deadly gets deadlier.”

This concept of core-periphery explains why sometimes various groups work together to achieve the strategic aims of one group, primarily

15. Horowitz and Potter, n. 10.

16. Ibid.

17. Horowitz and Potter, n. 10, p. 210.

18. Ibid.

19. Victor Asal and Karl R. Rethemeyer, “The Nature of the Beas: Organisational Structure and Lethality of Terrorist Attacks”, *Journal of Journal of Politics*, vol. 70 (California: Sage, 2014), p. 440.

We need to understand that in the face of such terrorist alliances, counter-terrorism measures targeting single groups would be futile. Instead, targeting the networks and their connections would be a far more effective way of tackling terrorism.

because the latter has higher capacity. Bruce Riedel's argument that Al Qaeda was the major benefactor of the December 2001 attack on the Indian Parliament fits in this explanation.²⁰ Jaish-e-Mohammad (JeM) operatives attacked the Indian Parliament on December 13, 2001. At a cursory glance, this attack appears to have no implications for Al Qaeda. However, an examination of the geo-political scenario in the region makes the role of Al Qaeda more apparent. It was the time when the American forces had overthrown

the Taliban rule in Afghanistan, Bin Laden was on the run and President Musharraf had also expressed his support for the Americans. At such a time, an attack of that level led to heightened tension between India and Pakistan, almost escalating to a war-like situation wherein both countries started moving forces towards the border. This diverted the attention of the Pakistani administration from their western border to the eastern one, thereby facilitating the escape of Bin Laden.

Former Indian Minister for External Affairs Jaswant Singh, in his memoirs, has stated that the JeM, Taliban and Al Qaeda had strong linkages. He argues that the hijacking of Indian Airlines flight IC 814, by the JeM facilitated with the support of Al Qaeda and the Taliban could have been a rehearsal for the September 11 attacks. The JeM, in return, managed to arrange the release of its key leaders as the ransom.²¹ Thus, the attack on the Indian Parliament could have been the JeM's way of paying back Al Qaeda. If both these premises are valid, it shows how smaller groups (the JeM in this case) work to facilitate the goals of a more capable group (Al Qaeda). Both sides benefited from this cooperation, but Al Qaeda achieved more than the JeM by arranging safe transit for Bin Laden and learning from the hijacking incident a lesson that it definitely applied in the 9/11 attacks.

20. Riedel, n. 11, pp. 69-70.

21. *Ibid.*, p. 70

These points make the understanding of terrorist networks essential. We need to understand that in the face of such terrorist alliances, counter-terrorism measures targeting single groups would be futile. Instead, targeting the networks and their connections would be a far more effective way of tackling terrorism. The counter-actions should be targeted towards understanding, tracking and disrupting the networks and in order to be most effective, should be driven towards the central nodes rather than the isolated groups or those in the periphery.²²

Al Qaeda's inception was a product of the impact of the Soviet invasion in Afghanistan in 1979. An elaborate network of fund raising and assistance was created in the Arab world, the US and Europe led by Osama bin Laden.

AL QAEDA

Even before the attacks of 9/11, Al Qaeda was characterised as the new phenomenon in the global terrorist network, distinct from the spatially confined terrorist organisations that had existed earlier in the Middle East. Al Qaeda's inception was a product of the impact of the Soviet invasion in Afghanistan in 1979. An elaborate network of fund raising and assistance was created in the Arab world, the US and Europe led by Osama bin Laden. The network was called Maktab al Khidamat (MAK), which, according to many experts, was the forerunner of the modern-day Al Qaeda. This can be considered as the inception of the broad network of Al Qaeda because the leaders of the MAK wanted to ensure the continuity of the large volunteer network that was created to fight against the Soviets.

Al Qaeda came into existence on August 11, 1988, when Osama bin Laden decided to create a "base" (Al Qaeda literally means base) in order to organise the recruitment, funding and organisation of these "Afghan Arab" Mujahideen.²³ It was founded on the sole beliefs of Bin Laden and initially

22. Horowitz and Potter, n. 10, p. 201.

23. Al Qaeda, Mapping Militant Organisations, Stanford University, at <http://web.stanford.edu/group/mappingmilitants/cgi-bin/groups/view/21>

comprised Afghan Mujahideen who were fighting the Soviet influence in Afghanistan during the Cold War. Bin Laden was against the Soviets because he felt that Communism, being atheist in principle, was against Islam. He was actively supported by the Central Intelligence Agency (CIA), that provided his group with weapons and financial support, which were delivered with the help of Pakistan's ISI.

After the Soviets left Afghanistan, Bin Laden, decided to use his organisation to fight what he considered was the new threat that the Muslim world faced – the Western world and its influence. He felt that the survival of the Muslim world was being threatened by the spread of the Western ideology and, hence, he called for a “defensive strike” to rid the world of Western influence and to set up an Islamic Caliphate that would impose a strict Sunni interpretation of the *Sharia*.²⁴ In this process to establish what he thought should be the correct Islamic lifestyle, Bin Laden and Al Qaeda opposed all other interpretations of Islamic texts, including those of the Shias, and condemned to death all those who followed, what they deemed as the “unIslamic” way of life.

But the group had to keep changing its base of operations due to governmental pressures. Following the Iran-Iraq War in 1990, Al Qaeda shifted its base from Afghanistan to Sudan. The period between 1990-96 was characterised by Al Qaeda's attempt to build coalitions with the smaller regional terrorist groups all over the world. An alliance was forged linking fellow militant Islamists, from the Abu Sayyaf group of the Philippines to the Islamic Group of Egypt and the Armed Islamic Group of Algeria (GIA).²⁵ After the Sudanese government was forced by international pressure to deny a safe haven to the mushrooming terrorist organisation of Al Qaeda, it had to move its base to Afghanistan, where the Taliban regime was more than willing to support the group.

The attack of 9/11 gave Al Qaeda the recognition of being the most feared terrorist group and it used this moment to pitch its anti-West ideology to

24. Terrorist Organisation Profile: Al-Qaeda, START, National Consortium for the Study of Terrorism and the Response to Terrorism, at http://www.start.umd.edu/tops/terrorist_organization_profile.asp?id=6

25. John Rollins, “Al Qaeda and its Affiliates: Historical Perspective, Global Presence and Implications for US Policy”, in *Congressional Research Service*, (CRS Report for Congress: Washington D.C, 2011) p. 55, see <http://fpc.state.gov/documents/organization/156542.pdf>

the world. It had already demonstrated its capabilities, which had left the world in a state of fear and shock, and the Government of the United States began retaliation by declaring the “Global War on Terror.” This gave Al Qaeda an opportunity to reach out to other terrorist organisations which were now more than willing to ally with a group that had such a fearful image. This was due to two reasons. First, it was obvious to the groups that they would not be able to stand against a force like the United States on their own. Second, this war created a fear that the West was rising against the entire Islamic world and Islam itself—this perception was the result of a barrage of misinformation and also due to the failure of the West to distinguish Islamist terrorism from Islam itself. This was used effectively by Al Qaeda to gain a foothold and drive its ideology, which led to the formation of an intricate network connecting various terrorist groups. Al Qaeda and Bin Laden personally used their resources to support other groups by setting up training camps for them and also by sending out their own members to help those groups across the world. Soon Al Qaeda had cells in around 100 countries with dozens of allies and affiliates, making its reach extensive and effective.²⁶

The network of Al Qaeda thrived following the declaration of the Global War on Terror. However, it now seems to have grown stronger and more dispersed than before, making it even harder to apply counter-terrorism measures. There is evidence to prove that Al Qaeda’s affiliates and allies have become more assertive after Osama Bin Laden’s death in 2011. This could be because at its core, Al Qaeda’s ideology is profoundly internationalist, attempting to contextualise local conflicts as a part of a broader global struggle against apostasy²⁷.

STRUCTURING THE TERRORIST NETWORK OF AL QAEDA

The terrorist network that grew due to Al Qaeda’s influence has a distinguished hierarchical arrangement. It has a three-tier structure which

26. n. 24.

27. ‘Apostasy’ for Al Qaeda means the infidels of the Islamic religion. Bin Laden called all the regimes in the Middle East apostates because they were not following the fundamentals of Islam and aligning with the liberal West, which Al Qaeda treats as the evil crusaders.

stands as²⁸:

- **Tier I:** This is the core, established by veteran leaders led by the chief of Al Qaeda. This group was led by Bin Laden himself and after his death; Ayman al Zawahiri took up the role. It is assumed to function from the rugged areas across the borders between Afghanistan and Pakistan.
- **Tier II:** This extends to various countries and consists of veteran combatants trained in Afghanistan. They provide training and instructions to the new recruits, using their personal experiences and examples.
- **Tier III:** This consists of newly radicalised militants who form localised cells.

Al Qaeda forms a core with high capabilities and the flow of resources takes place from the core to the periphery. Pooling and sharing of resources is also seen within the various tiers. The desire for more resources and influence may lead to competition among the various groups which desire to move from the periphery to the core, or seek greater dominance within their tier. This can lead to various kinds of interactions. The Mapping Militant Organisations Project of Stanford University defines the following kinds of interactions:²⁹

- **Affiliates:** When a group pledges fealty to, and relies on, support (material, financial, ideological, etc.) and/or guidance from another, usually more senior, group, it is defined as an affiliate of that more senior group.
- **Allies:** When groups share a similar ideology and/or goals and are known to communicate and sometimes even coordinate operations, they are identified as allies. Ally relationships may contain elements of competition amongst groups/group members, but, in general, the relationship is seen as one of cooperation.
- **Merger:** Group mergers occur when two or more groups agree to consolidate resources and operate jointly under the same banner towards the same cause, thus, forming a new group. Group mergers

28. Gomez, n. 13.

29. Definitions, Mapping Militant Organisations, Stanford University. See <http://web.stanford.edu/group/mappingmilitants/cgi-bin/pages/definitions>

require one or all groups to shed their original identity and commit to the new group's articulated vision.

- **Rivals:** When groups engage in sustained competition, often vying for resources, prestige, and/or support, they are considered to be rivals. Rival groups can engage in violence against each other, though sometimes the rivalry is less explicit. Shared ideology does not preclude groups from being rivals. Some rivalries may contain elements of cooperation, but, in general, the relationship is defined as one of competitiveness.
- **Splits:** When part of one group establishes itself as an independent entity (almost always with a new name), it splits from the parent group. A group may also splinter into several smaller groups. It is important to note that splits are not always the result of dissension; sometimes, a split is a tactical decision. For example, splitting into militant and political arms might grant the political arm more legitimacy while still allowing it to carry out militant activities.
- **Umbrella Organisations:** When separate but like-minded groups formally organise under a single banner to show unity of purpose and strategic and/or tactical cooperation, they do so under umbrella organisations. Groups that are part of an umbrella organisation usually retain their original identities and names, and can still function independently.

AL QAEDA'S TERRORIST NETWORK IN INDIA

South Asia has been one of the worst victims of terrorism, especially Afghanistan, Pakistan and India. Afghanistan and Pakistan are the home ground of Al Qaeda, which is at the apex of the terrorist network operating in South Asia. The region is also littered with a large number of terrorist organisations, which work alone or cooperate to fulfil their objectives.

India too has its own share of Islamist terrorist groups, most of which operate out of Pakistan, while there a few that operate out of Pakistan-occupied Kashmir (PoK), and some home grown organisations. The secession of the state of Jammu and Kashmir (J&K) from India, and its assimilation into Pakistan, is the primary objectives of most of the groups that operate

If a network were to be established for the groups in India, Al Qaeda would be at the apex followed by the four most prominent groups of the region that have direct established linkages to Al Qaeda. These are Lashkar-e-Tayyeba (LeT), Harkat-ul-Jihadi al-Islami (HuJI), Harkat-ul-Mujahideen (HuM) and Jaish-e-Mohammad (JeM) and they represent Tier II of the network.

in India, many of which are actively supported by Pakistan's intelligence agency. The ISI uses these outfits to wage proxy wars and to create an environment of disturbance for the Government of India. Only a handful of these groups have direct links to Al Qaeda and most of the others belong to the lower rung of Tier II or III of the network. Establishing Islamic rule in India as a part of the Global Caliphate is another aim towards which these groups work. They look at Kashmir as a gateway to India to form a continuous belt of an Islamic rule which starts from West Asia and continues beyond South Asia. After establishing Islamic rule as per the strict Sunni interpretation of the *Sharia*, the

groups want to extend their domain to the rest of the country.

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The various groups have been analysed in detail in the coming sections of the paper and the linkages among them have been established using data available in the public domain. A special mention must be made about the Students' Islamic Movement of India (SIMI) and its militant outfit – the Indian Mujahideen (IM). Both these groups have been suspected of having links with some of the groups of Tier II of the network and some claims about their relations with Al Qaeda have also been made. However, it has

not been possible to to establish these linkages beyond reasonable doubt and, hence, the groups have not been included in the study.

Let us look at the groups and their relationships in detail.

LASHKAR-E-TAYYEBA (LET)

Aliases: Lashkar-e-Taiba, Lashkar-e-Tayyeba, Army of the Pure, Army of the Righteous

The LeT has been responsible for some of the most high profile attacks in India, which include the November 2008 attack on Mumbai and the December 2001 attack on the Indian Parliament. The group was formed in 1990 in the Kunar province of Afghanistan, and is based in Muridke near Lahore in Pakistan.³⁰

It is headed by Hafiz Muhammad Saeed, who is a learned Islamic scholar and was appointed by the Pakistani President Zia-ul-Haq to the Council of Islamic Ideology.³¹ His antagonism towards India could emanate from the fact that he lost around 36 members of his family when they were migrating from Shimla to Pakistan after Partition.³² He supports Al Qaeda's view of a pan-Islamic world and accordingly, works towards establishing an Islamic rule in India to create a Muslim state stretching all around Pakistan.

The LeT was active as one of the Mujahideen groups in Afghanistan during the Cold War. Its cadres fought alongside the Taliban against the Northern Alliance forces and the LeT allegedly became close to Pakistan's ISI during this time. The latter was active in fuelling the Mujahideen against the Soviets and were used by the US to distribute funds to support the Afghan fighters. The ISI, under the leadership of Gen Akhtar Abdur Rehman, and through individuals such as Abdallah Azzam, began using

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30. Lashkar-e-Toiba, South Asian Terrorism Portal, at http://www.satp.org/satporgtp/countries/india/states/jandk/terrorist_outfits/lashkar_e_toiba.htm

31. Praveen Swamy, "Pakistan and Lashkar's Jihad in India", *The Hindu*, December 9, 2009, at <http://www.hindu.com/2008/12/09/stories/2008120955670800.htm>

32. Ibid.

the Afghan groups as elements of the proxy war against India.³³ Azzam worked with Saeed to apply the lessons learnt in Afghanistan into their strategy in Kashmir.³⁴ The LeT began using its training camps in Afghanistan and Pakistan to train recruits who could carry out attacks in India. The ISI started supporting the LeT, which in return was more than happy to receive the support because of its isolation from the local Al Hadith groups, that had shunned the LeT because of their extremist interpretation of the concept of *jihad*.³⁵

The LeT's presence in J&K was first recorded in 1993 when 12 Pakistani and Afghan mercenaries infiltrated across the Line of Control (LoC) in tandem with the Islami Inquilabi Mahaz, a terrorist outfit then active in the Poonch district of Jammu and Kashmir (J&K).³⁶ Around this time, it became a part of the United Jihadi Council, wherein it formed alliances with other groups operating in the region such as the Harkat-ul-Mujahideen (HuM), Hizb-ul-Mujahideen (HM), Jaish-e-Muhammad (JeM) and Harkat-ul-Jihad al-Islami (HuJI). Over the years, it has collaborated with many of them to carry out attacks on Indian soil, but its relationship especially with the JeM has deteriorated primarily due to rivalry for the ISI's support.³⁷

The same organisation, the ISI, has continued to provide support to the LeT since its inception, the most recent proof of which came with the Mumbai attacks of 26/11, when the arrested LeT operative David Coleman Headley admitted this.³⁸ For the attack, Headley collaborated with a former ISI asset, who later defected to the Al Qaeda, Ilyas Kashmiri, who coordinated between the LeT and Al Qaeda.³⁹

But this was not the first time that links between Al Qaeda and the LeT had suffered. LeT chief Saeed had always maintained close ties with Azzam, as mentioned earlier. Azzam was the co-founder of the Maktab al Khidamat,

33. Riedel, n. 11, p. 26.

34. *Ibid.*, p. 30.

35. Lashkar-e-Taiba, Mapping Militant Organisations, Stanford University, at <http://web.stanford.edu/group/mappingmilitants/cgi-bin/groups/view/79>

36. Riedel, n. 11.

37. *Ibid.*

38. *Ibid.*, p. 91.

39. *Ibid.*

which was the founding group of Al Qaeda.⁴⁰ LeT's operational commander Zaki-ur-Rehman Lakhvi is the brother-in-law of senior Al Qaeda member and a deputy under Bin Laden, Abu Abdur Rahman Sareehi.⁴¹ Lakhvi, incidentally, was also the mentor of Ajmal Kasab (who was arrested as the sole surviving executor of the Mumbai attacks) and had close personal relations with him.⁴² The LeT's ties with Al Qaeda were further confirmed when Abu Zubaydah, the third in command of Al Qaeda under Bin Laden, was arrested in March 2002 from a LeT safe house in Faisalabad.⁴³ Post 9/11, the LeT was actively involved with Al Qaeda and received US\$ 100,000 to protect Al Qaeda leaders and to facilitate their transit.

In the present context, it can be summed up that the LeT is the most well connected terrorist group operating in the region, enjoying cordial relationships with Al Qaeda, the ISI and a plethora of other terrorist outfits operating in the region.

HARKAT-UL-JIHAD AL-ISLAMI (HUJI)

Alias: Movement of Islamic Holy War

HuJI was one of the first extremist groups to operate in Kashmir. It was initially formed in the early 1980s to fight the Soviets in Afghanistan and was supported by the ISI. As with the LeT, the end of the Cold War made HuJI turn towards Kashmir to fight for its separation from India. It became one of the groups actively supported by the ISI to carry out attacks in the Kashmir Valley and has since then, expanded its reach to carry out attacks such as that on the American Centre in Kolkata in 2002 and the Dispur bombings in Assam in 2008.

HuJI, along with the LeT, HuM and JeM constitutes the four most prominent groups in Tier II of Al Qaeda's network in India. Incidentally, the HuM and JeM, both began as splinter groups from HuJI. HuJI's ties to Al Qaeda exist because of its founder Qari Saifullah Akhtar. Akhtar was trained

40. Ibid.

41. Ibid.

42. Ibid., p. 88

43. Ibid.

in the Jamia Binoria Madrassa in Karachi⁴⁴, which has been responsible for producing some of the most high profile terrorists in the region. It was here that he met Fazlur Rehman Khalil and Masood Azhar, who later parted ways from the HuJI to form the HuM and JeM respectively, which will be discussed later in the paper.

The HuJI's connection to Al Qaeda can also be traced through its leader Muhammad Ilyas Kashmiri who also serves as the head of military operations for Al Qaeda.⁴⁵ As mentioned earlier, he was involved in the 2008 attacks on Mumbai and was coordinating with David Headley to see if a similar attack could be organised in Denmark, to protest against the cartoons of the Prophet published in a Danish newspaper.⁴⁶ Kashmiri was born in Mirpur⁴⁷ Pakistan Occupied Kashmir (PoK) and was trained by the ISI and he later moved into Al Qaeda.⁴⁸ In the 1990s, he started his own group called 313 Brigade⁴⁹, which was responsible for the beheading of Indian Army soldiers in February 2002⁵⁰. The Pakistani authorities appreciated this act and Kashmiri was even awarded a cash-prize by Pervez Musharraf.⁵¹

Although the splits have made HuJI less effective, with most of its members now working for either the HuM or JeM, it continues to hold prime importance from a counter-terrorism perspective due to its vast network. Apart from India, HuJI is active in Afghanistan, Myanmar, Bangladesh, Uzbekistan, Tajikistan, and even parts of Africa.⁵² Its branches in Bangladesh are a major concern for India because of the support they receive from certain political sections.⁵³ The group maintains strong links with the Taliban and

44. Harkat-ul-Jihadi al-Islami, Mapping Militant Organisations, Stanford University, at <http://web.stanford.edu/group/mappingmilitants/cgi-bin/groups/view/217>

45. Baba Umar, "Al Qaeda Gets a New Military Chief in Kashmiri. India Tops His Hit List", *Tehehka*, December 4, 2012, at <http://www.tehehka.com/al-qaeda-gets-a-new-military-chief-in-kashmiri-india-tops-his-hit-list/>

46. Riedel, p. 101.

47. Ibid.

48. Ibid., p. 40

49. Ibid.

50. Ibid.

51. Ibid.

52. Umar, n. 45

53. Bruce Vaughn, "Bangladesh: Political and Strategic Developments and U.S. Interests", *Report for Congress* (Congressional Research Service, Washington D. C.) April 1, 2010, at <http://fas.org/sgp/crs/row/R41194.pdf>

Al Qaeda and has also been suspected of collaborating with the Students' Islamic Movement of India (SIMI). It also has ties with militant groups operating in India's northeast, including the Assam-based United Liberation Front of Asom (ULFA) and the Manipur-based People's United Liberation Front (PULF).⁵⁴ It is reported to run some of ULFA's camps situated in the Chittagong region in Bangladesh along the border of Tripura.⁵⁵

HARKAT-UL-MUJAHIDEEN (HuM)

Aliases: Harakat-ul-Mujahidin, Harakat-ul-Mujahideen, Harkat-ul-Mujahidin, Harkat Mujahideen, Islamic Freedom Fighters' Group, Jamia-ul-Ansar

The HuM emerged as a splinter group in 1985, separating from HuJI due to ideological differences and disputes over financial allocations for the operations.⁵⁶ The group primarily seeks Kashmir's secession from India. Although it also declares itself to be against what it considers "anti-Islamic", Kashmir still holds a higher prerogative.⁵⁷ This could have been one reason why it parted with HuJI, which is considerably more extremist in its Islamist ideology.

However, the separation deeply affected the functioning of the groups and this could be why they reunited in 1993 to form the group Harkat-ul-Ansar (HuA). It has been alleged that the ISI took the initiative towards forming this alliance⁵⁸, which could be due to the fact that it was worried about the waning of militant operations in Kashmir as a result of the split. However, soon after 1993, the Indian authorities managed to arrest three of top leaders of the HuA. Hence, the HuA began several operations to obtain the release of the leaders. This resulted in several kidnappings of soldiers (January 1994), foreign tourists (June 1994) and ordinary civilians (October

54. Umar, n. 45

55. Ibid.

56. Harkat-ul-Mujahideen, Mapping Militant Organisations, Stanford University, at <http://web.stanford.edu/group/mappingmilitants/cgi-bin/groups/view/219>

57. Terrorist Organisation Profile: Harakat ul-Mujahidin, START, National Consortium for the Study of Terrorism and the Response to Terrorism at http://www.start.umd.edu/tops/terrorist_organization_profile.asp?id=50

58. Ibid.

The HuM has for long enjoyed extremely cordial ties with Al Qaeda, primarily because of its leader: Fazlur Rehman Khalil. Khalil was one of the five signatories of Osama bin Laden's February 1998 *fatwa* called, "The World Islamic Front for Jihad Against the Jews and Crusaders."

1994). But all of these attempts failed as the Indian government refused to pay heed to the ransom demands. It was then that the HuM carried out the infamous hijacking of Indian Airlines Flight IC 814 in December 1999, which eventually succeeded in its mission, as Masood Azhar, Umar Saeed Sheikh and Mushtak Ahmed Zargar were released by the Indian authorities in return for the passengers. This attack was carried out with help from the ISI and the Taliban and the then ISI Chief Lt Gen Mahmud Ahmad's role in this incident has been openly discussed due to his familiarity

with the Taliban.⁵⁹

However, Masood Azhar joined the HuA on his release and then went ahead to create his own group: the Jaish-e-Mohammad (JeM).⁶⁰ This split severely crippled the capacity of the HuA as most of the members left with Azhar. As a result, HuA could not continue for very long and split into its initial constituents: the HuJI and HuM and a third front – the JeM.

The HuM has for long enjoyed extremely cordial ties with Al Qaeda, primarily because of its leader: Fazlur Rehman Khalil. Khalil was one of the five signatories of Osama bin Laden's February 1998 *fatwa* called, "The World Islamic Front for Jihad Against the Jews and Crusaders."⁶¹

JAISH-E-MOHAMMAD (JEM)

Aliases: Jaish-e-Mohammed, Army of the Prophet

As stated earlier, the JeM came into existence when HuM leader Masood Azhar split away from the JeM after his release from prison to create his

59. Riedel, n. 11, p. 59

60. Ibid.

61. n. 57.

own group. The reason for this split has been speculated to be internal ethnic differences in the HuM.⁶² Most of the HuM's Punjabi members, who constituted a considerable share, left the group along with Azhar, severely affecting its capabilities.⁶³ This split created severe tensions between the two groups and clashes erupted, leading to the JeM killing a few members of the HuM.⁶⁴ Eventually, the groups reached an understanding, wherein the JeM gave all its assets in Punjab to the HuM in return for money.⁶⁵

Eventually, this group grew with the constant support of the ISI, Taliban and Al Qaeda, and has become one of the most active and deadly terrorist groups in the region. The ISI had played an important role in the creation of the JeM by helping in organising fund raisers to push start the group.⁶⁶ One of the JeM's most critical attacks was on the Indian Parliament in 2001, in which the issue of the ISI's connection has come up time and again.⁶⁷ In fact, it was due to this closeness with the ISI that the JeM developed a rivalry with the LeT and the relations between these two groups soured.⁶⁸ The JeM also developed rivalry with the Hizb-ul-Mujahideen (HM) due to its increasing influence in Kashmir.⁶⁹

Over the years, the JeM has become increasingly aggressive and even turned against the Pakistani state. This was primarily due to the changing stance of President Musharraf, who under the American pressure, was

The JeM has become increasingly aggressive and even turned against the Pakistani state. This was primarily due to the changing stance of President Musharraf, who under the American pressure, was beginning to express anti-terrorist sentiments.

62. Jaish-e-Mohammad, Mapping Militant Organisations, Stanford University, at <http://web.stanford.edu/group/mappingmilitants/cgi-bin/groups/view/95#note38>

63. Ibid.

64. Ibid.

65. Ibid.

66. Riedel, n. 11, p. 59.

67. J.T. Vishnu, "ISI Supervised Parliament Attack", *The Tribune*, December 16, 2001, at <http://www.tribuneindia.com/2001/20011217/main1.htm>

68. n. 62.

69. Ibid.

beginning to express anti-terrorist sentiments. This did not go well with Al Qaeda, and Bin Laden's then deputy, Ayman al Zawahiri, released an audiotape calling for Musharraf's ouster.⁷⁰ In December 2003, the JeM attempted to assassinate Musharraf⁷¹, which dealt the final blow to ISI-JEM relations. The assassination attempts made it clear that there were perpetrators within Musharraf's security detail who knew about his travel plans, which put the ISI on a tight spot as well.⁷² Musharraf took strong steps like replacing the ISI chief and arresting several JeM operatives. This culminated in a selective counter-terrorism campaign by Pakistan in which certain groups were targeted while others were left untouched.⁷³

The JeM has also maintained strong ties with Al Qaeda and the Taliban. Its relations with the Al Qaeda can be traced back to the time when Azhar was a part of the propaganda team of HuM and was posted in Africa where he supposedly met Bin Laden and even fought with him in Somalia.⁷⁴ JeM members were trained in Al Qaeda's training camps in Afghanistan prior to America's invasion of the region. Its relations with the Taliban can be established by the fact that the Taliban uses the JeM's official newsletter *Zarb-e-Momin*, as its mouthpiece.⁷⁵ *Zarb-e-Momin* was originally founded by the Al-Rashid Trust (ART), a charity organisation that also facilitates the transit of money and weapons for terrorist groups in the region. ART's founder Mufti Rashi and Azhar had studied together in the Jamia Binoria Madrassa in Karachi and this gave the JeM access to ART's funding and thereby, enabled it to gain a foothold in the region.⁷⁶

70. Salman Masood, "Pakistani Leader Escapes Attempt at Assassination", *The New York Times*, December 26, 2003, at <http://www.nytimes.com/2003/12/26/world/pakistani-leader-escapes-attempt-at-assassination.html>

71. Ibid.

72. Riedel, n. 11, p. 70.

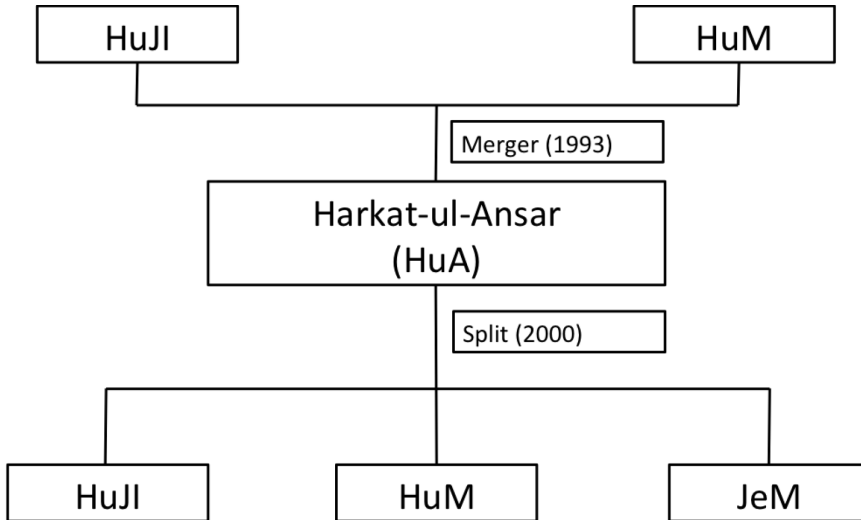
73. Ibid.

74. n. 62.

75. Ibid.

76. Ibid.

Fig 1: The Relationship Between the HuJI and its Splinter Groups



HIZB-UL-MUJAHIDEEN (HM)

Aliases: Hizbul Mujahideen, Hizb-ul-Mujahidin, and HM of the Jamaat-e-Islami

The HM is one of the Tier III organisations that operates in the region, but is considerably powerful and influential. Formed in the year 1989, the group's primary objective is to separate Kashmir from India and make it a part of Pakistan, although some of its members support complete independence of the state.⁷⁷ The group is supposed to have started as the military wing of the Jamaat-i-Islami, Pakistan, and is said to have come into existence as a brainchild of the ISI, which along with Jamaat created HM as an Islamic counter to the Jammu and Kashmir Liberation Front (JKLF).⁷⁸

77. Terrorist Organisation Profile: Hizbul-Mujahidin, START, National Consortium for the Study of Terrorism and the Response to Terrorism at http://www.start.umd.edu/tops/terrorist_organization_profile.asp?id=52

78. Hizb-ul-Mujahideen, South Asian Terrorism Portal, at http://www.satp.org/satporgtp/countries/india/states/jandk/terrorist_outfits/hizbul_mujahideen.htm

AUM still operates in the Kashmir Valley and seeks secession of Jammu and Kashmir from India, to establish it as a part of Pakistan. Towards this goal, it has worked along with the JeM and has been supported by the Government of Pakistan occupied Kashmir.

The group is mostly made up of ethnic Kashmiris and has some foreign fighters, and their attacks have killed almost 200 people in the last 12 years.⁷⁹ Syed Salahuddin headed the group, while its chief commander was Abdul Majeed Dar. Dar was a very influential personality, who claimed to have direct access to Nawaz Sharif and Pervez Musharraf.⁸⁰ In July 2000, Dar made a conditional offer of a ceasefire to the Indian government, a move that was endorsed by Salahuddin. However, in August 2000, Salahuddin had a change of opinion, which could have been due to the

pressure from other terrorist groups. On March 2003, Dar was shot dead by operatives of the Al Umar Mujahideen, another group funded by the ISI.⁸¹ The death of Dar resulted in a fight within the group to grab his position. Clashes broke out between Dar's followers and those of Salahuddin. It was later learnt that that before Dar's death, Salahuddin and the ISI had worked towards marginalising him⁸², which could have been because they had learned of his intentions for a ceasefire. But, Dar's stance and his death drove the various smaller groups in the region against each other and chaos ensued in their fight for influence.

Nonetheless, the HM has been one of the prime targets of Indian counter-terrorism plans. The Indian intelligence reports that it is responsible for only about 10 to 20 per cent of all terrorist strikes, while the Pakistani reports estimate that it controls about 60 per cent of the terrorists operating in Kashmir.⁸³ It maintains close ties with the HuJI and LeT and several

79. Global Terrorism Database: Hizbul-Mujahidin, START, National Consortium for the Study of Terrorism and the Response to Terrorism at <http://www.start.umd.edu/gtd>

80. Ibid.

81. Kanchan Lakshman, "Shock and Outrage", *Outlook*, March 24, 2003, at <http://www.outlookindia.com/printarticle.aspx?219532>

82. Ibid.

83. n. 78.

other smaller groups in the region. This association could be attributed to the fact that Syed Salahuddin also heads the United Jihadi Council (UJC), which is the association of all the groups that operate in Jammu and Kashmir.

AL UMAR MUJAHIDEEN (AUM)

AUM is one of the Tier III groups founded by Mushtaq Ahmed Zargar in 1989. Zargar was arrested by the Indian security forces in the year 1992, but was one of the prisoners released in exchange for the passengers of the hijacked India Airlines Flight IC 814.

AUM still operates in the Kashmir Valley and seeks secession of Jammu and Kashmir from India, to establish it as a part of Pakistan. Towards this goal, it has worked along with the JeM and has been supported by the Government of Pakistan occupied Kashmir, based in Muzaffarabad.⁸⁴ It is also a part of the United Jihadi Council (UJC), which is a conglomerate of 15 Pakistan-based terrorist organisations that operate out of Muzaffarabad. Pakistan's ISI had appointed Zargar as the chief coordinator to carry out attacks on the candidates and political parties in the legislative election of 2002 in Jammu and Kashmir.⁸⁵

TEHREEK-UL-MUJAHIDEEN (TUM)

The Tehreek-ul-Mujahideen was founded in 1990 by Yunus Khan to promote the cause of the annexation of Jammu and Kashmir into Pakistan. It also seeks protection of the Asidih community, a small faction of Sunni Muslims.⁸⁶

The TuM is a member of the United Jihadi Council and is funded by the ISI and has established links with the LeT and HuJI. It works as an important organisation responsible for supplying arms and resources into Indian territory.

84. Al Umar Mujahideen, South Asian Terrorism Portal, at http://www.satp.org/satporgtp/countries/india/states/jandk/terrorist_outfits/Al_Umar.htm

85. Ibid.

86. Tehreek-ul-Mujahideen, South Asian Terrorism Portal, at http://www.satp.org/satporgtp/countries/india/states/jandk/terrorist_outfits/Tehreek_ul_Mujahideen.htm

The TuM is a member of the United Jihadi Council and is funded by the ISI and has established links with the LeT and HuJI. It works as an important organisation responsible for supplying arms and resources into Indian territory. It does so by working along with the Bangladeshi group, Ahle Hadis Youth Association that helps it to transport weapons from Pakistan to India through Bangladesh and Nepal.⁸⁷ It also helps in the distribution of funds through the *hawala* network.

UNITED JIHADI COUNCIL (UJC)

Alias: Muttahida Jihad Council (MJC)

The UJC or the MJC is an association of the various Pakistan-based terrorist groups that operate in Jammu and Kashmir. It was formed in November 1990, to bring all the groups under one umbrella to resolve the various differences that had erupted between them over time. The council aims to enhance the capabilities of the various groups in the region by arranging for sharing of resources and information. To facilitate this, the groups signed a *Muwakhaat* (agreement on the basis of brotherhood), which states, among other points, that no group can stage an attack in Kashmir without the prior permission of the council.⁸⁸

It has been said that the UJC was a brainchild of the ISI, created to control the large number of smaller terrorist groups that had sprung up in the region.⁸⁹ Merging the smaller organisations into groups curbed the number of their representatives in the council. It was a smart step to effectively reduce the voice of these smaller groups.

The chief of the HM, Syed Salahuddin, heads the group. Salahuddin and his group were ousted from the council when the HM declared a ceasefire with the Indian security forces. But when he did not support this decision, he and his group were taken back and he was reelected as its head.

87. Ibid.

88. Muttahida Jihad Council, South Asian Terrorism Portal, at http://www.satp.org/satporgtp/countries/india/states/jandk/terrorist_outfits/mjc.htm

89. Ibid.

As per the South Asian Terrorism Portal, the following terrorist outfits are currently members of the Muttahida Jihad Council:⁹⁰

- Hizb-ul-Mujahideen
- Jammu and Kashmir Liberation Front
- Harkat-ul-Ansar
- Tehrik-e-Jehad
- Tehreek-ul-Mujahideen
- Jamiat-ul-Mujahideen
- Al Jihad
- Al Umar Mujahideen
- Jammu Kashmir Islamic Front
- Muslim Janbaz Force
- Hizbullah
- Al Fatah
- Hizb-ul-Momineen
- Lashkar-e-Tayyeba
- Jaish-e-Mohammed
- Al-Badr Mujahideen

AL RASHID TRUST (ART)

Al Rashid Trust is a Pakistan-based charity that provides support to terrorist organisations all over the world and was used to help in the distribution of weapons and finances in the guise of humanitarian aid.⁹¹ It was supported by the ISI but the Pakistan government seized all its bank accounts after the US designated it a terrorist organisation. Since then, the Al Akhtar Trust (AKT) has acquired it and has been operating the group.⁹²

ART had been associated with the Taliban and Al Qaeda. It ran a website in Britain called Global Jihadi Fund, which was openly associated

90. Ibid.

91. Al Rashid Trust, Mapping Militant Organisations, Stanford University, at <http://web.stanford.edu/group/mappingmilitants/cgi-bin/groups/view/117>

92. Ibid.

with Bin Laden.⁹³ The head of ART was Mufti Rashi, who reported to JeM leader Masood Azhar. Rashid and Azhar had been students at the Jamia Binoria Madrassa in Karachi⁹⁴ and Azhar regularly contributed to the ART newspaper *Zarb-e-Momin*, which was later acquired by the JeM. In return, Rashid funded the JeM and also arranged for Azhar to be declared as the emir of the Taliban in Jammu and Kashmir.⁹⁵

AL AKHTAR TRUST (AKT)

The Al Akhtar Trust is a Pakistan-based charity organisation, which took over the functioning of ART, once its bank accounts were seized. It is an offshoot of the JeM and arranges delivery of arms in the guise of humanitarian aid.⁹⁶ The AKT and ART are two organisation most used by Al Qaeda to send supplies to Kashmir. The chief of the JeM, Masood Azhar, is currently the head of the AKT.

Over the years, the group has also participated in genuine relief operations such as providing aid to the victims of the earthquake of October 5, 2005, which brought it some positive publicity.⁹⁷ It used this platform to recruit members and gather fund and also provide logistic and financial support to the LeT, JeM, HM and HuM.

93. Chris Hastings and David Banmber, "British Cash and Fighters Still Flow to bin Laden" *The Telegraph*, January 27, 2002, at <http://www.telegraph.co.uk/news/uknews/1382816/British-cash-and-fighters-still-flow-to-bin-Laden.html>

94. n. 91.

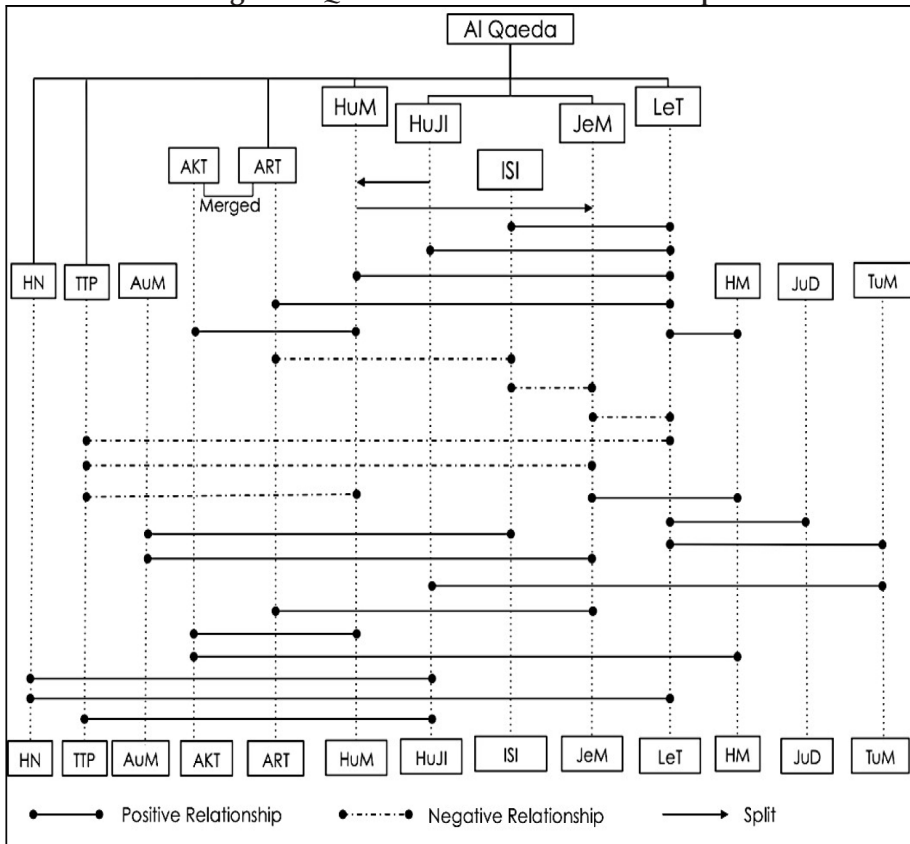
95. *Ibid.*

96. Al Akhtar Trust, Mapping Militant Organisations, Stanford University, at <http://web.stanford.edu/group/mappingmilitants/cgi-bin/groups/view/111>

97. Amir Mir, "On the Terror Trail", *The Tribune*, April 2, 2006, at <http://www.tribuneindia.com/2006/20060402/spectrum/main1.htm>

ANALYSING THE NETWORK

Fig 2: Al Qaeda's Terrorist Network Map



As can be seen in Fig 2, Al Qaeda operates in India through four main organisations: HuM, HuJI, LeT and JeM, which constitute Tier II of the network. These groups are further linked to various other smaller groups such as the HM, AUM and TuM. The figure also shows two other organisations that are linked directly to Al Qaeda – the Haqqani Network (HN) and the Tehreek-e-Taliban Pakistan (TTP). Both these groups operate in Pakistan, hence, they have not been studied in detail. But they do maintain relations with the groups operating in India. The two charity organisations, AKT and ART, that have been represented in the figure, facilitate the distribution of funds and resources. The figure also shows the

India needs to be more watchful of the various non-governmental organisations and the various charity groups that work in its territory to ensure that the funds collected by these groups and also provided to these groups from various other groups, are not utilised for terrorist purposes.

LeT's political front, the Jamaat-ud-Dawa (JuD). The relationship of the ISI with the various groups is central to understanding the network that operates in India.

An analysis of the figure reveals that the LeT is the most connected group in the region. As stated earlier, terrorist groups with the most linkages are the most lethal ones. This is because of their larger influence in the region, which is supplemented by the ability to orchestrate attacks. Indian counter-terrorism attempts so far have been diverted towards attacking the groups in Tier III, especially the HM. This is primarily

because the HM is the most active, with constant attacks that continue to draw the attention of the authorities.

However, one needs to understand that these groups in Tier III depend greatly on the support of the groups in the upper tiers. The vast number in Tier III creates fear in the mind of the observer, but it has to be understood that their efficacy is limited and such groups are often created to increase the area of influence of a certain ideology, which may not always be operationally effective. Similarly, a large number of smaller organisations simply align themselves with the core, just for the prestige this holds. Such groups are rarely capable of acting alone. Hence, targeting these lower level organisations will hardly count as an effective counter-terrorism policy.

Instead, counter-actions should be targeted at two areas – the key nodes and the distribution system for the flow of resources and funds. Targeting the key groups in Tier II is essential because these are the actual functioning centres of the network. But such action is not easy to take. First, all of these groups operate from foreign soil or from areas that are not under our federal control. Hence, direct action, short of a war, can be orchestrated only through the intelligence agencies. A covert operation comes with its own set of risks, which get especially magnified in the context of India and

Pakistan. The other way is to build political and international pressure over Pakistan to coerce it to act against the groups acting from its territory. As a sovereign state, Pakistan needs to be held responsible for the activities (even if these are not linked with state bodies such as the ISI) emerging from its soil, and the international community needs to build up more political pressure to compel it to act.

Targeting the flow of resources is again not an easy task. Most of these distribution channels transverse national boundaries and, hence, counter actions require international cooperation to a greater extent. In this regard, India recently joined the Financial Action Task Force, which is an inter-governmental body seeking to fight money laundering and terrorist financing. Accordingly, it brought out amendments in the Unlawful Activities (Prevention) Act, to include the economic components of terrorism to curb financing of terror. India has also entered into agreements facilitating sharing of intelligence with other nations to counter terrorism.

India needs to be more watchful of the various non-governmental organisations and the various charity groups that work in its territory to ensure that the funds collected by these groups and also provided to these groups from various other groups, are not utilised for terrorist purposes. Further, India needs to secure its geographical borders to prevent smuggling of weapons into its lands.

Lack of centrality of counter-terrorism related functions has been a major issue in combating terrorism. Maintenance of law and order is the prerogative of the states but most states lack the political will to do so. The governments at the Centre and in the states have failed to reach a bipartisan consensus on how to tackle such issues, and any strong step by the Centre is seen as encroachment upon the powers of the state. This results in lack

Just as a terrorist network operates through cooperation among the various terrorist groups, it is only through cooperation among nations that such a network can be undone. In this regards, nations have to look beyond their selfish political gains towards a common good and a common goal.

of coordination between the state bodies while the terror groups are able to move easily from one state to another within India.

CONCLUSION

When it comes to fighting terrorism, it is important to understand the way both sides perceive victory. For a terrorist group, success is determined by its sheer ability to carry out an attack, without consideration about the efficiency of the attack. In this regard, most groups fight to exist and develop their network because that, for them, is a symbolic victory. On the other hand, for a state, success is determined by its ability to prevent the occurrence of a terror attack. Most countries such as India, do not, and cannot, effectively act on the central groups primarily because these groups operate from beyond their political borders. Such a situation promotes the growth of the network which survives and thrives on the low scale attacks executed by the smaller groups.

The destruction of these smaller groups does not matter to the upper echelons of terrorism because such units can be easily created and supported. Thus, countries need to look more towards the network itself and consider it the enemy that has to be defeated. This is easier said than done because the network is large and organic, and is cleverly modifying itself to fight the states, while enlarging at the same time. The role of intelligence gets highlighted beyond any other tool of counter-operations and it is by increasing the quality and quantum of intelligence that states can dismantle this network.

And, finally, just as a terrorist network operates through cooperation among the various terrorist groups, it is only through cooperation among nations that such a network can be undone. In this regards, nations have to look beyond their selfish political gains towards a common good and a common goal.



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