STRENGTHENING INDIA'S EXTERNAL INTELLIGENCE INFRASTRUCTURE: AN ASSESSMENT

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In absence of a national security strategy (NSS), the task of intelligence agencies in India has failed to be systemic. India's intelligence infrastructure lacks a holistic view and very less effort has been put to reorganize intelligence infrastructure on the basis of contemporary threat perceptions. Without a strong security infrastructure country cannot eye towards becoming a regional power. Due to a rigid security system, India has a disparate intelligence mechanism in service. While little effort has gone towards synergizing all sources of intelligence and request dissemination in real time/ near real time basis. To address these concerns, the external intelligence infrastructure primarily needs to undergo a drastic review. Secondly, it needs to be ascertained that the failure in generation of intelligence on strategic level is not due to the failure in action but due to its inherent structure. Although many efforts have gone in to recognize the problems faced by the agencies, less effort have been veined in to provide a good organizational structure based on the problems faced by these agencies. This paper attempts to outline a number of points, which would help to develop a more superior external intelligence infrastructure.

The term 'Intelligence Agency' does not have any clear definition but its work significantly confines to gathering of intelligence, psychological warfare and counter intelligence activities, which are the main roles of the espionage community since centuries and is somehow considered to be human's second occupation. The intelligence agencies are responsible for collection, analysis and exploitation of information in support of law enforcements, national security, military, and policy objectives among others. The more information you have about you, your enemies and even of your allies, the more it would help in preparation of effective strategies and policies that will assist you to be more superior than your counterparts.

The concept of espionage was intensely studied in Kautilya's Arthshastra during the times of Mauryan Empire.[1] Thereby most of the Indian kings realized that military might was not an exclusive way to ensure protection of the kingdom and their interests. They started planting spies who would penetrate/grow in enemy organizations and would provide information to their commanders and monarchs. It is undoubtedly a dangerous way for ensuring the wellbeing of a state, but remains to be equally important to any state. There was always a risk of the trusted mole's identity being leaked to the enemy and the mole itself being used against the planting monarch or kingdom. Therefore, the implanted spies were always instructed to run away or commit suicide if identified so that that the agent would not remain a threat to the implanting kingdom and crucial information would not be leaked. Such historical system of information gathering and counter intelligence is relevant even today, but the process is now made easier due to extensive use of modern technology.

Intelligence agencies work or take judgments on the basis of 'estimated perceptions', which may be wrong or right. After information gathering, the agency's main task lies in information refining; here the information refers to only the raw material, which is refined by human minds that is not bound to accuracy. These Agencies take actions on the basis of information provided by various Intel sources, which may or may not be reliable in nature. Further, the information provided by the source may not be pinpointed. There could also be an analytical or decoding error that hampers the work/objectives of the intelligence agencies, therefore one must not expect that such organization will be successful in its objectives always, as the whole game of intelligence assessment lies in 'probability'. One needs to understand that intelligence gathering; espionage, counter-intelligence and such allied tasks are extremely complex in nature. These tasks are also discreet in nature. Any political influence that may channelize the sources of the agencies in an altogether different way may cause irreversible damage to the country.

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[1] For basic study compilations on the Arthasastra and the various types and methods of espionage, See, B. K. Chaturvedi, Kautilya's Arthshastra, Diamond Pocket Books (P) Ltd., 2001; and, L N Rangarajan. (Ed) "Kautilya, The Arthashastra, Penguin Books, 2000.

The need of informational awareness beyond the sovereign boundaries has undergone manifold changes since its inception. Nation's enemies are no longer known in this sub-conventional, unconventional, counterinsurgency and asymmetric warfare environment, .Moreover, these enemies believe fighting in shadows and that's where security agencies must battle and obliterate its objectives by all means. For external intelligence perception, India basically operates through two agencies -- the Research & Analysis Wing (R&AW) and DIA for military intelligence (MI). Besides having two external intelligence agencies catering to the military and civil needs respectively, it is worrying that most of the times the country has failed to assess external adversaries. Few events of the immediate past can prove this outright.

India had hardly any information about moist build-ups in Nepal and Kachin State of Myanmar. Disposing of Maldives' president too came as surprise. Agencies had little information about the construction of Chinese sponsored highway cutting across the disputed Aksai Chin region. It was in fact only after 11 months of commencement and a month before its completion Indian agencies caught wind of the project. The Agencies had no idea what Chinese were doing in Coco Island located in the northeastern Indian Ocean. India still does not know from where the Chinese intruded 19kms deep in the Indian boundary in the month of April 2013. Perhaps, India's biggest failure came during the Kargil Operation. Indian agencies had failed to pick up massive human activities along the treacherous Kargil heights. Security agencies were unaware for a long time about the presence of 11,000 Chinese soldiers in Pakistan administered Kashmir (PAK).[2]

Historically, India has remained prone to sudden attacks initiated by the neighbors. The security agencies have reacted in an unprepared and defensive way to these attacks, clearly indicating weak intelligence apparatus that nation follows. However, it would be wrong to blame the intelligence agencies alone without taking into account the challenges and deficiencies they face for such failures. All these successive failures clearly call for identifying the deficiencies within the agencies. It also prompts us to recognize and eliminate these deficiencies by introducing some radical modifications. These indicative changes have to be centered on the growing complexities of the national security, regional aspirations and the ever-fluid battlefield environment. The preventive security system that the nation contemporarily follows needs to be replaced by an aggressive security system. Information remains one of the most powerful weapons for any nation and especially to India, which is encircled with enormous threats. Therefore, from Karakorum Pass to the deep waters of the Indian Ocean, the country's security system should be well equipped with information about its own and its rivals. For gathering information in this vastly stretched operational array, our Intel system should be well equipped with better organizational structure, modern assets and a clear motive.

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[2] Selig S. Harrison, "China's Discreet Hold on Pakistan's Northern Borderlands", New York Times, August 26, 2010, http://www.nytimes.com/2010/08/27/opinion/27iht-edharrison.html

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Glossary: EXPLAINING 6 BASIC SOURCES OF INFORMATION COLLECTION

HUMINT- Human Intelligence is the collection of information from human sources. The collection may be done openly or it may be done by applying clandestine methods

SIGINT- Signals intelligence is information derived from electronic signals and systems used by targets such as communications systems, radars and weapon system. Other common examples of SIGINT are Communicational Intelligence (COMINT) and Electronic Intelligence (ELINT).

IMINT- Imagery intelligence is an information gathering discipline which collects information via satellites (also known as Geospatial intelligence) and particularly Aerial Photography.

OSINT- open sources of intelligence, refers to collection of information from overt, publically available sources.

MASINT- Measurement and signature intelligence basically serves to detect, track, identify or describe the signatures (distinctive characteristics) of fixed or dynamic target sources such as emitted nuclear energy, sounds of engines, propellers, radio frequency and more.

Research and Analysis Wing: Issues and Trends

Indian intelligence agencies' organizational systems are basically influenced by the structure of Western country's intelligence system.[3] It was only after the 1962 Indo-Sino War and the 1965 Kargil-1 (Indo-Pak) war, policy makers decided on setting up an exclusive external intelligence agency. Prior to this, the Intelligence Bureau (IB) was solely responsible for gathering both internal and external intelligence. R&AW thus came to existence by late 1968.[4] It was put under the direct control of the Prime Minister's Office (PMO). Initially, it had only 250 officers in its arsenal. These officers were veterans of the IB. The agency was formed with the objective to conduct intelligence gathering in West & East Pakistan and in China. It was also responsible to limit the supply of weapons from western countries to Pakistan. To boost R&AW's operational capability, it was also provided with the Aviation Research Center (ARC) and other technical intelligence (TECHINT) sources, which were routed from the IB. Today, R&AW operates about 5000 personnel, including number of people on

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[3] Briefly discussed in, Maloy Krishna Dhar, "Fulcrum of Evil: ISI, CIA, Qaeda Nexus", Manas Publications, 2006.

[4] V. K. Singh, "India's External Intelligence: Secrets of Research & Analysis Wing (RAW)", Manas Publications, January 2007

deputation. The operational horizon of the agency has also been far stretched. It is now responsible for collecting military, economic, scientific and political intelligence, which would then help in formulating foreign policies, security objectives and other key strategies.

The agency is composed of four major divisions and each one of them concentrates on specific regions of the world. Area-1 concentrates on Pakistan; Area -2 on China & South Asia; Area -3 on the Middle East and Africa and Area -4 is for other specific target countries. The agency also has a separate division called the Electronic & Technical services (ETS) which is responsible for conducting Electronic Intelligence (ELINT) missions. The Radio Research Center (RRC) under R&AW performs Signals Intelligence (SIGINT) and allied tasks. But it is unclear why the agency operates two different divisions for almost the same role. The most advanced division of R&AW is the ARC for which the National Technical Research Organization (NTRO) acts as an overseeing authority. Aerial surveillance, photo reconnaissance missions, ELINT and monitoring of borders by the use of Imagery Intelligence (IMGINT) are the main functions performed by ARC. It is supplemented and supported by the Indian Air Force (IAF). It is strongly believed that R&AW operates several bases inside and outside the country for gathering airborne intelligence. But there are reports indicating that ARC may soon shut down and that its resources would be divided between NTRO and IAF.[5] R&AW also operates Special Frontier Force (SFF), which consists of about 9000 qualified maroons under the command of a senior Army General. Even though the agency has a large organizational chart and has a great potential, it is somehow seen as an infective agency due to political negligence.

Destitute Information sharing

There was a time when hardly any information was shared between the intelligence agencies. It was due to fear of 'discrediting' among the agencies. An 'Agency X' would never like to sacrifice its work and credit it to an 'Agency Y'. However, if today we can observe some unanimity in these agencies that is only because of a strong government in center. But intelligence agencies should remain effective all the time irrespective of which kind of government is in power; strong or weak, interested or uninterested. Unanimity among our agencies is an extremely fluctuating factor. The rivalry between IB and R&AW is well reported.[6] Issues such as cross-border terrorism, Hauula transactions, smuggling of arms and narcotics are areas of concerns for both IB and R&AW. If R&AW would cater in these areas it would be alleged that it is interfering in the issues that comes under the purview of the IB. One needs to understand that in this globalized period, it is difficult to construct a barrier between external and internal

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[5] Praveen Swami, "RAW to shut down its covert air wing, assets will go to NTRO and IAF", Indian Express, September 18, 2015.
[6] See for examples, Bisheshwar Mishra, "IB wants to enter RAW turf now", Times of India , February 5, 2005; and , "Rivalry between IB, RAW and MI Costing India lives", India Today/IANS, December 2008.

security matters. These issues undoubtedly come under the direct purview of IB, but the sources for these illicit activities maybe foreign or national. The situation is no better on the military front either. The Army does not share intelligence assessments with civil intelligence agencies by arguing that it is the only end user of such information and other agencies would have no benefit from it. All these factors have resulted in dissatisfaction among the agencies. We have a structure in place to analyze intelligence in a clustered form under the Joint Intelligence Committee (JIC), but there is a lack of a proper system to regulate the information sharing between all the 21 national intelligence agencies.

Lack of Accountability

The recent attack in the air force base in Pathankot had triggered a great debate in the country. Most party spokespersons blamed the intelligence agencies for not providing credible information on time. Later it was discovered that the agencies had given pin-pointed information prior to the attack. There is subsequent lack of accountability on the part R&AW and IB because of the 'secrecy shield' the agencies are entitled to since its inception. Thus the agency can't justify its stance and become more prone to the blame games, which politicians and other organizations exploit. This ultimately affects the moral of the agencies and altogether leads to failure often shown as negligence and deficiency in our security and intelligence system. There has been no executive and parliamentary scrutiny of these agencies. Without oversight and scrutiny, the agencies would continue to commit mistakes that would be embarrassing to the nation.

Lack of skilled personnel and effective recruitment.

R&AW's existing recruitment procedure is very odd. It invariably delays the urgent recruitment of officers. Intelligence gathering is a complex arena and the requirement for special staff is extremely fluctuating. The present recruitment process is very lengthy and this has hampered the timely induction of staff. The agency has thus been forced to depute officers from other services. Generally, the deputation to the agency does not provide any such significant boost to the career of personnel who are being hired from other organizations. Moreover, how can a secretive agency like R&AW run its specific programs and works by depending on the people hired on deputation. R&AW today is short of about 130 management-level staff, particularly at under secretary and deputy secretary level. The agency is also short of its sanctioned strength of cryptanalyst who is responsible for breaking enemy codes and ciphers. After 26/11 various media houses revealed that the Indian Intelligence Services are functioning with staffing deficits of up to 40 per cent.

Bad Inter-personal Relations

The present managerial system of R&AW is deeply divided by career resentment within the Research and Analysis Services (RAS) officers. This is basically due to lack of effective recruitment. Overtime, the overall responsibility of the agency has been shifted out to the Indian Police Service (IPS) and other cadre officers who have negligible experience in intelligence working/skills. These officers drawn from other services block future prospects of intelligence officers who were recruited directly into RAS because other cadre officers make up the top ranks of the agency, but those who are recruited directly retire at junior ranks, which make anomalies in career progression. This practice has led to inter-personnel differences and has hit the working moral of the officers. It is believed that bad-interpersonal relationship in the agency led the famous double agent Col. Rabinder Singh to escape to USA. Singh was a joint secretary in the R&AW who defected to the US in 2004. He was supposedly passing information to the Americans since the 1980s.[7]

Strengthening R&AW

An Organization for Intelligence Coordination. Most of the times, the problem of intelligence failure is in its coordination; the major terror incidents such as the 9/11 attacks in the US and the 26/11 Mumbai attacks could have been prevented if there would have been a strong base for information coordination. There is an urgent need to have an organization responsible for sharing and coordinating exchange of intelligence/information between all the civil intelligence agencies. Such an organization should develop sub-headquarters in every state that would be deeply connected to the state security establishments. Such system will enable both horizontal and vertical flow of information/ intelligence in the country. Its state version may also come directly under the purview of the Chief Minister of the state so that it will not be subjected to any political blame. The organization's directorate can regularly report to the highest authoritative body such as the National Security Advisor and its functions may include:

(a) Sharing and coordinating intelligence -- both at national and state levels.
(b) Guiding various intelligence agencies on the basis of their work.
(c) Maintaining relations between all the national intelligence agencies and solving disputes.
(d) Coordinating as and when required with the military equivalent, DIA.
(e) Maintaining limited intelligence collection assets, especially for conducting anti-espionage operations in the agencies as well as for gathering of other specific

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[7] Praveen Swami, 'R&AW in crisis after double agent disclosure', Hindu, May 29, 2004, http://www.thehindu.com/2004/05/29/stories/2004052905291100.htm; Devika Bakshi, "Getting away with treason: the story of double-agent Rabinder Singh", July 1, 2015, http://www.catchnews.com/india-news/getting-away-with-treason-the-forgotten-story-of-indian-double-agent-rabinder-singh-1435670211.html

information.

(f) It will have the power to investigate, arrest and prosecute suspects while inheriting the command structure of NCTC, NIA, NSG, Joint Intelligence Committee (JIC) and National Crime Record Bureau.

(g) Preparing and exchanging dossiers with several ministries and governmental departments on regular basis.

(h) The organization can be subjected to public purview with the help of press releases but in a limited prospectus without compromising any subject of secrecy.

2. Setting up Committees.

The central government should form an independent committee for overseeing the performance of the Agency and its personals. That should be subjected to positional changes of the personals on the basis of performance and recommending desired names for the Secretary/G. Secretary/ Sp. Secretary Ranks to the PMO. This committee should also be accountable to the Parliament. Its members should be selected by the Union government after negotiating with the opposition leadership and the agency. Secondly, there has to be some supervision by independent bodies of the nation such as well-regarded auditors and the judiciary that would be responsible for accounting checks and balances. Intelligence agencies are considered patriotic and usually some wrong doings can be in the nation's interest. Therefore, it doesn't need any internal checks of what functions is being performed by the agency. Such system will save the R&AW from political influence and will ensure its accountability towards the nation.

3. New Recruitment Policy.

Contract employment should be considered an option when there is no other option left. Recruitments in R&AW should take place only on the basis of renewed devised guidelines of induction, which would be more flexible, and of shorter periods. It should pave the way for the recruitment of highly motivated, ambitious and skilled staff. Focus should be on inducting young, ambitious and talented personals. The best way is through campus recruitments or online applications for various branches in the agencies such as Analytic Positions, Business, IT & Security Positions, Language Positions, etc. After acceptance of forms, the recruitment department of R&AW can conduct written test that may include subjects such as language, GK and international politics. There is need for a separate recruitment department in R&AW attached to the department of personal and training (DOPT), which will look after:

(a)Searching for potent and required skilled inductees.
(b)Conducting fitness, medical and physiological tests.
(c)Taking interviews and general ability tests.
(d)Conducting tough background checks of the candidates.

It would be preferable that after getting training, employees should be hired on an initial one-year probationary period.

4.Need for National Intelligence Academy and Institution.

There is a need to develop an intelligence academy in the country, which would be the hallmark for the training of Intel officers in various fields of intelligence. Influenced by the IMA recruitment, these officers may be selected through UPSC examination followed by SSB phase after graduation. There is also a need to setup a dedicated Institute for Intelligence studies connected to the proposed academy that will work like a think tank and will guide intelligence reforms in the country. The career development of the intelligence officers/employees after having basic training should be a continuous process in order to determine his/her aptitude towards his/her work such as analysis, operations, technical and others. The academy will:

(a) Provide potent and disciplined officers to various Intel Agencies.
(b) Make the cadets dynamic leaders in their respective fields.
(c) Nourishing their skills and talents.
(d) Maintaining links with other state of the art military and non-military institutions for providing theoretical as well as practical training to the cadets.

Revamping India's Military Intelligence

The Indian military intelligence directorate was started in 1941 for generating field intelligence. The hostile atmosphere of the 1960s compelled the Army to modernize its Signals Intelligence (SIGINT) corps. Soon IAF and IN also developed its own sophisticated Imagery Intelligence (IMINT) and SIGINT mechanism, respectively. The Defence Intelligence Agency (DIA) was created in 2002 in the aftermath of the Kargil review committee report. DIA's major role is coordination of intelligence among the Armed forces through the intelligence directorates. It also heads distinct organizations such as Defence Image Processing and Analysis Centre (DIPAC), Defence Information Warfare Agency (DIWA) and Directorate of SIGINT. Most of the cross border intelligence missions of military are conducted under the supervision of DIA. In modern day, the needs of military and civil intelligence agencies is not very different except its Tactical Intelligence (TACINT) requirements which remains as a major thrust of any warfare and even border management. It has been never understood that the role of military intelligence remains more important even than the exclusive firepower assets in the time of peace/ sub-conventional warfare and at the time of full-fledged war. Without specific intelligence the military would incur more losses even if the enemy is weak. Be it assessing enemy's strength, weaknesses, its intentions, military intelligence has to play the most prominent role in the country's security system.

The role and functioning of DIA and its directorates would remain same as before with some changes. The paper proposes ending the role of Defence Image Processing and Analysis Center (DIPAC) and Directorate of Air Intelligence. DIPAC controls India's satellite-based image acquisition capabilities while Directorate of Air Intelligence has a role for imagery intelligence collection from different designated aircrafts. With the help of ISRO, it is also acquiring independent space based imagery intelligence capabilities. Therefore, it would be best to combine their efforts under one organization such as Satellite and Air Intelligence Command (SAIC). It may be headed by an Air Marshal rank officer. Unlike other directorates, the IAF would have different wings for counter intelligence, information analysis and corruption investigation. As per the proposed plan in this paper, DIA would head three distinct organizations, the Defence Information Warfare Agency (DIWA) and Directorate of SIGINT that it presently operates and a newly introduced Weapon Analysis & Research Centre (WARC).

Lastly, there is a need for institutionalizing Committee for Military Intelligence Analysis (CMIA). DIA's main role is to coordinate information between its own organizational hierarchy and passing the same to the concerned security establishments but it has no structure to assess any information in a comprehensive manner. CMIA would be a research branch under DIA chief that will consist of representatives from the Army, Navy, Air Force, sub branches heads and several specialists for quality policy making and planning in several matters on the basis of received information. The advices and observations made by this committee would further be sent for consideration to concerned organization. As each sister service's basic beliefs and doctrine is different to each other, CMIA would work as a bridge towards figuring out the situation, nature of problems, its solutions incomprehensive manner. Altogether this will help to have sharp and swift decision making mechanism in national security sector. The DIA chief reports to Chief of Defence Staff (CDS) and defence ministry. In the war time scenario, the DIA chief will report to the designated general which will coordinate the efforts of the forces in two front wars and will have direct excess to information of all concerned regions.

Indian Army has 7 regional commands and every command operates about 2-3 corps. The corps command divisions which is the combination of several brigades. Every brigade besides its combat role operates supportive arm units which include multipurpose UAVs, Signals units, personnel reconnaissance units etc for acquiring field information and tracking enemy actions. TACINT remains to be in the main role for identifying and assessing potential military threats at the borders which would include the assessment of terrain, size, location, equipment and capabilities of rival armed forces or insurgents but the need to centralize this information for assessing the larger picture of the situation is ever growing, especially when the world is coming to the phase of hybridized warfare which effectively includes the use of third party in warfare as a strategic asset. The centralized decision-making is very important at all levels when it comes to short-term wars/ local conflicts.

At border areas, the Commanders in the lower echelons should conduct reconnaissance activities independently to meet their informational demands that may involve using local citizens too for short durations. The paramilitary forces posted at several sophisticated areas should come under directorate of MI. These forces should develop a good intelligence mechanism with both HUMINT and TECHINT by operationalizing a separate dedicated wing for the same. Most importantly, modern surveillance equipment have to be acquired and placed proactively by the operational forces at difficult terrains, such as thermal imagining cameras, SIGINT devices, moving target indictors, other sensors, UAVs and using satellite based imagery; which will give 24/7 coverage of all aspects of border management.

India's coastline is two times the length of land frontier and is prone to infiltration by dangerous elements. Moreover, the growing military might and the national aspiration of becoming a security provider to the Indian Ocean Region (IOR) has led to the need of developing a good maritime intelligence network. In the aftermath of 26/11 attacks, the union government in 2015 unveiled National Command Control Communication Intelligence (NC3I) Network, which can track 30,000-40,000 ships a day from the help of multiple sources ranging from costal radars to satellites. It comes under the Information Management and Analysis Center (IMAC) that fuse, correlate and analyze them to assess threats.[8] It has led to strengthening of nation's Coastline security by the central decision making under the NSA and now remains to be as the basic information provider to the Naval Intelligence System. But the country is yet to achieve National Maritime Domain Awareness (MDA) for which Indian Navy has to acquire greater ISR capabilities such as Unmanned Undersea Vehicles (UUVs) with several sensors, more patrol submarines, aerostats, aircrafts, helicopter, sensors for undersea activity monitoring and all, ensuring a wider coverage. Moreover, Marine commandos (MARCOS) can effectively be used for observation of water depths, currents, slopes of sea, seabed and enemy defensive positions and so on. The directorate of NI should also effectively use HUMINT resources by penetrating them in the concerned/ potential ports that has been seen as the part of Chinese dominance in IOR such as of 'String of Pearls' and of its innovative 'Silk Route' project, to have information of all the activities pertaining to the presence of Chinese warships/submarines in it as well as using other technical resources for the same.

There is need to have a Satellite and Air Intelligence Command (SAIC) under the command of the Air Force which will lead to effective use of airborne intelligence in coordination with satellite fuselage data (Geospatial Intel) that is the dire need of armed forces in advanced warfare and security assessments unlike placing it under civil

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[8]Saikat Datta, 'Intelligence booster: government to rise new cadre of spies'. Hindustan Times, January 14, 2015, http://www.hindustantimes.com/india/intelligence-booster-govt-to-raise-new-cadre-of-spies/story-U7k9kSUON9RJmNu46jT7TK.html; "Eight coastal radar stations in state integrated with Naval intel network" Indian Express, May 10, 2015, http://indianexpress.com/article/cities/ahmedabad/eight-coastal-radar-stations-in-state-integrated-with-naval-intel-network/

intelligence agency or differently. The SAIC will closely work with civil intelligence agencies, National Spatial Data Infrastructure and would also be responsible for nuclear targeting in support to the strategic forces of India. There is a need for Air Force to expand ISR capabilities by the use of multi range UAVs, Satellites, aircrafts with more effective SIGINT, ELINT, CYBINT, EW suits and effectively using Measurement and Signature Intelligence (MASINT) sources for clearly identifying threats and targets. This command would cater to all the image assessment and visual informational needs of the forces that should be quick and accurate. Moreover, if some clarification is needed, ground forces or specialized HUMINT assets can rightly be deployed in that specific area to have a clear view of the scenario. India has about 10 remote sensing satellites in orbit of which most of are not meant to be dedicated Military Satellites but which can be rightly and optimally used for Military Applications. The list includes RISAT-2, CARTISAT-2, 2A, 2B and so on. SAIC should also get inputs from such satellites with the help of integrated space cell, jointly operated by ISRO and Armed Forces.

There is a need to organize a tri-service cyber command which would be responsible for defending the military computer networks and intruding in enemy's cyber apparatus to get information; relevant to the tactical, strategic and technological needs or paralyzing enemy's critical infrastructures. It would also be responsible for ensuring freedom of network operations for own forces while denying the same to the adversary. Uniformed personnel would closely work with techies. The command would be responsible for putting together the existing cyberspace resources, creating synergy and integrating assets of three services. Such command may also come under DIA only.

The DIWA is primarily responsible for information warfare, physiological operations, cyber war, electronic intercepts and monitoring of sound waves, but DIWA should also get coordinates from All-India Radio Monitoring Service (AIRMS) which monitors all non-encrypted and encrypted broadcast from Pakistan, China, and Bangladesh etc. Importantly, the introduced WARC in this article would be headed by DRDO or other research organization's experienced personals for analysis and clear assessments of the rival country's weapons and allied role machines that would be based on the information obtained by confidential/ publicized OSINT and other resources. WARC will work closely with public defence research organizations and Armed Forces technological institutes. It will also have the responsibility to search for new market opportunities in the foreign defence sectors for the indigenous defence products. DIA should also head the Joint Cipher Bureau (JCB) which is responsible for providing SIGINT coordination among three services with similar missions of Directorate of SIGINT.

The information coordination in the defence intelligence hierarchy would be based on real time sharing for which the DIA would operate and maintain a 'defence intelligence grid' that would be connected with every sub command and other civil security establishments. The grid would be specially attached with 21 National Intelligence organisations and intelligence sharing applications such as NATGRID, NETRA, CMS etc

which will help to coordinate information/ intelligence in real time to the concerned departments in any given situation. At the same time, it should be immune from hacking or intervention from any other foreign elements. DIA should also consider preparing and exchanging dossiers with several ministries and governmental departments on regular basis.

A Common Outlook

The HUMINT remains the basis of espionage system from its inception. Subsequently, the technical sources of intelligence have emerged as more potent and reliable. But that doesn't mean that the age of HUMINT has ended; there are many grey areas where TECHINT has limited scope and where HUMINT can succeed, especially in sub-conventional and asymmetric warfare environment which India is experiencing since more than three decades.

For external intelligence, the country's security system has typically relied on TECHINT. For which India is yet to inculcate and develop more assets, talented personals and their skills. After the IK Gujral period (1997-1998) as PM of India during which the then government had banned the deployment of trans border HUMINT resources, the successive governments have not really been able to reverse his decision. Such type of approach regarding Human Intelligence has harmed the nation's security preparedness in the past and so will it in the future too. Both China and Pakistan are using HUMINT as an effective tool for information gathering near border areas and even beyond. India, however, remains on the back foot in this. Policy makers have also failed to acknowledge that irregular forces undertaking sub-conventional and asymmetric operations have emerged with much greater strategic advantage over conventional forces. Therefore, there is a greater need to establish an irregular deterrence at strategic level against the asymmetric tactics regulated by the rivals.

Strategically, there is an urgent need to develop a great network of HUMINT resources, especially in regions such as Xinjiang, TAR, PAK, borders with Myanmar, Nepal, and Bangladesh and beyond to have an eye on every activity that may be attributed as deterrence to the nation's security. While also strengthening the foothold of the agencies in the pre-occupied areas .The limited or no use of HUMINT is believed to be one of the most basic reasons why intelligence agencies have always failed in terms of generating worthwhile intelligence. Systematized and coherent use of TECHINT as well as of HUMINT assets would be very beneficial for the security system. As nation facing great sub-conventional threats such as Naxalism and terrorism, there is a dire need of quality penetration of moles into notorious organizations for providing important information about their plans, commanders or operation modules, so that the security organizations can be prepared.

There should be a robust coordination between Directorate of MI and R&AW as both remain India's nodal agencies for external intelligence assessments and have unified

role to playing effectively assessing military and non-military threats from external sources. The deep understanding between MI and R&AW will lead to double checks and more accurate decision making.

It is interesting to note that China's success in the 1962 war against India was partially attributed to good information collection by PLA, which had started intelligence collection from India's northeastern frontier two years before the military offensive. The PLA had foreknowledge about our weapons, strength and combat tactics. Today, the field of military intelligence gathering has also widened, it not only comprises of tactical or field intelligence but also political, economic, infrastructural, communicational, geographical, understanding Order of Battle plans, believes of the foreign armed forces and others to asses potential adversaries by the rival country and for understanding its vulnerabilities and strengths. All this can be classified under the generation of strategic intelligence. There should be a greater role of Special Forces (SF) in intelligence generation on strategic levels. Their prime work will be to provide information of the developments taking place in specific foreign areas of interest that include sensitive areas of PAK, TAR, Xinjiang and others.

India operates one of the largest fleets of SF personnel, even more than that of the US Army. However, their real potential and efficiency has still not been fully realized. In operational aspect, SF personnel can rightly be used for irregular combats, information support operations, physiological operations, perception management, training friendly forces/assets, cross-culture communication and ground preparations before mission launch; monitoring operational and strategic security environment and preparing intelligence reports for the same. SF personals remain as a game changer in covert missions of the region. Very recently, the success of the annexation of Crimea by Russian federation is somewhere credited to its Spetsnaz (Russian SF) team, which was covertly deployed there against all international pressure. The Special Fortier Force (SFF), which has been prohibited to be deployed within the 10kms of the Indo-Sino borders and sanctioned against any cross border raids since 1975, should be limitedly operationalized to optimally use their skills, especially in concern to China.

The Agencies also cannot ignore the role of women in information generation and counter intelligence work. As women are gifted with some special skills and abilities, their features should also be effectively used by our agencies. Today there is need for quality Military Attaches too who need to have special skills and abilities to perform varied tasks in clandestine manner on foreign ground to collect data of weapon technology, order of Battle, and military doctrines, economics and policies of other countries from OSINT and by managing their own cadre of informants.

There is a need for a National Cyber Command as it brings together the Armed Forces and civilian agencies on two folds: improve the country's resilience and defence systems against serious electronic attacks, while enhancing its own intrusive, interceptive and exploitative capabilities. India's intelligence system today is not just weak when it

comes to Cyber Intelligence (CYBINT) but also when it refers to exploiting OSINT such as foreign military journals, websites, electronic media, books etc especially of rivals, from which the agencies can gain plethora of information/ intelligence without any such exertion. Intelligence Agencies should also consider capitalizing NRI population as an OSINT, for establishing 'billion eyes on the ground'. In the modern era, challenges for external intelligence agencies are many and some of them are even hard to be recognized and expressed therefore there is need that these agencies and altogether country's security apparatus should be altered on the basis of future needs so that it can cater to the unique hurdles of the nation's security and could defend the country and its regional interest at any given point.

Conclusion

After the rapid development of Weapons of Mass destruction (WMD), the world has come towards greater use of unconventional forces or what is called the 'beginning of fourth generation warfare'. Pakistan is now known as a 'terrorist state' which has openly declared its policy to 'bleed India through thousand cuts' and on other hand we have China which is aiding the non-state actors against India. It is entering into a strategic partnership with Pakistani intelligence agency, the ISI. The need of the hour is to strengthen India's muscles, especially in the fields of external intelligence assessments and stealthy strategic operations to deter the adversaries.

Immediate steps should be taken for modernization of the country's intelligence infrastructure and mechanisms at the earliest. There is need to have less intelligence agencies with clear organizational/work structure in defined terms of internal as well as external roles that would lead to maximum outcome and minimum clashes. It is high time India learnt from the 'patriot act' passed by the US government after the 9/11 incidents.

Further Readings

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