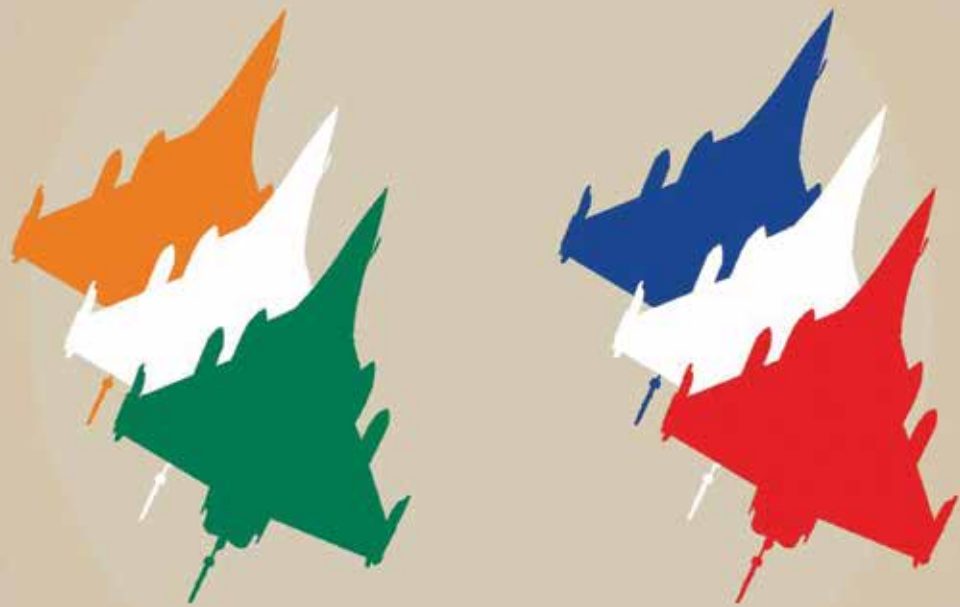


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JOURNAL OF THE CENTRE FOR AIR POWER STUDIES

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EDITOR'S NOTE

This issue of the journal consists of articles on disparate themes but they are all well researched and well written. We are proud to present them to our readers.

The lead article by **Wg Cdr Nair** shows how the Indian Regional Navigation Satellite System (IRNSS) can serve many purposes besides the obvious one of providing navigational and positioning accuracy. When the article was written, five of the planned seven satellites had been positioned in space and already the accuracies that obtained were acceptable. Recently, a sixth satellite has been launched and the seventh will be in orbit in the next few months. IRNSS is the Indian GPS (Global Positioning System) and we should all be proud of the achievement. The system's footprint covers the South Asian Association of Regional Cooperation (SAARC) countries and is free of cost to the user. What is required is the hardware to access the system and we should lead the way in procuring/manufacturing such hardware and put IRNSS into effective use. The article shows how, with inter-state cooperation, the region at large stands to gain. There will be legal ramifications and neighbourly issues but the system shows promise. The example cited of how stolen cars can be recovered is but a foretaste of the possibilities if there is genuine cooperation.

This issue of the journal has a few articles with a decided philosophical bent. The first of such articles is by **Gp Capt Manoj Kumar** who states what is now obvious to many, that the rate of progress in technologies is accelerating and, possibly, there are many emerging technologies on the horizon. The author posits that it will be of great advantage if one could not merely forecast the trend but fashion it to advantage for future planning of defence needs. The

article attempts a practical approach to a largely theoretical and, may be, even esoteric concept, but history has shown how such concepts, when given free rein and encouragement, have often resulted in war winning technologies.

Of late, Russia's military planning and execution of plans and its concept and success of what is termed as 'hybrid warfare', has elicited praise, albeit grudgingly, from many analysts and its would be adversaries and detractors. The general impression gained is that Russia is superior in some aspects of warfare and adept at their use. One such area is cyber warfare and the use of the electromagnetic spectrum. Culled from open literature, **E Dilipraj** has given details of some Russian Electronic Warfare (EW) systems. The specifications of these systems and their capabilities are indeed very impressive. Even though the claims are difficult to authenticate, the article is indicative of the capabilities that the more advanced countries will be able to field in the not too distant future. The tremendous impact of such systems on military operations will be obvious to both the lay readers and military practitioners.

The so-called Islamic State (IS) is in the news on a daily basis. The gruesome barbarism so often displayed by it will remain fresh in our collective memories for many decades to come. The antics and fate of the Islamic State must remain a subject of continuous study. In a well researched article, **Aersh Danish** traces the history of the phenomenon and its growth since the much touted declaration of the Islamic Caliphate on June 29, 2014. The article explains the theological precepts and the reasons for the attractiveness of the system in the eyes of some of those who practise the Islamic faith. The clear aim of the IS is to expand its influence and take over the Al Qaeda cadres. In fact, some authorities have termed the IS as the Al Qaeda on steroids. It boasts of the creation of *Wilayats* or provinces in far flung areas. Although there is no supportive evidence as of now, it will be a matter of some concern if the IS makes serious inroads into South Asia.

Two articles deal with China and the inroads it is making in the Western Pacific area. The articles are on disparate and yet inter-related themes. **Captain HPS Sodhi** says that China's reclamation work is concentrated in the Spratly Islands group. As many analysts have suggested, reclamation should relate to lands over which a

country has undisputed rights whereas the Chinese are actually creating or constructing islands or at best enlarging them. The reefs on which work is being carried out are not natural islands that, by definition, must have some part above water at all times. The islands are also claimed by Malaysia, Taiwan, Philippines and Vietnam. These other claimants have also undertaken reclamation activity and it is difficult to believe that the work being done is solely for peaceful and humanitarian purposes. Construction of airfields could be for peaceful purposes but positioning of radars and surface-to-air missiles belies that claim. **Swati Arun** takes a different tack and argues that the show of belligerence and aggression is not related solely to the desire for greater areas for exploration for natural resources. She opines that this is not a peaceful activity and is as per the Chinese 2015 White Paper that tasks the PLA Navy to work for "open seas protection". China is probably testing the waters and waiting to see the response from Japan, the Association of Southeast Asian Nations (ASEAN) and even the US. Attempts to understand the designs of the Middle Kingdom continue to attract scholars but remain work in progress. In a well argued and lucidly written article, the author tries to establish what is behind the manifold approaches adopted by China in the region.

The West Asia region also excites the imagination of a number of scholars. It is a cauldron that is becoming increasingly difficult to decipher. **Anu Sharma** limits her inquiry to Iran, Saudi Arabia and Israel. As the nuclear deal with Iran was approaching finalisation, there were indications of a growing mutual convergence between Israel and Saudi Arabia, something that was unthinkable earlier. Now that the deal is signed and sealed, a shift in the power equations in the region is on the cards. The strife in West Asia could intensify, and Israel and Saudi Arabia could seek common ground to combat the growing or likely to grow influence of Iran.

On a somewhat different theme, **Grp Capt Narang** essays a philosophic study on the importance of history and the impact of understanding the events that transpired in the past in deciding future courses of action, including decisions required in real life operational scenarios. The reader is left in no doubt about the importance of writing, maintaining and studying military history as part of the

initial training regimen and, indeed, throughout the service career. He has also undertaken a broad brush treatment of our history and agencies tasked to write and archive history.

The last article is by **Kriti Singh** and she discusses the looming threat of 'honey trap operations'. It is an age-old phenomenon that has met with considerable success over the years and the dangers have increased with greater indulgence of individuals in the social media. She explains how the social media can be used, how such operations are planned. The article is a good reminder and warning to all about the lurking danger. Time and again, it has been shown that the confidence that 'it cannot happen to me' is ill founded.

Happy reading.



STOLEN CARS AND TERRORISM: USING INDIAN SATELLITES (IRNSS) TO BREAK THE CROSS- BORDER NEXUS AND PROMOTE TRADE AND INTERNATIONAL COOPERATION

K K NAIR

BACKGROUND

Vehicle thefts are deeply distressing and damaging to the owner and the nation in many more ways than one. Crime mixed with terrorism is a potent mix, amply witnessed a week prior to January 26, when the terrorist threat loomed large and was only accentuated with the theft of three vehicles, including that of the Inspector General (IG) of the Indo-Tibetan Border Police (ITBP), an army officer and a police constable. So intense was the alarm that no vehicles were permitted anywhere near the parade venue. However, India's 67th Republic Day passed off very well. There was not a single terrorist act across India; not even a stray one. The credit goes entirely to the numerous security and intelligence agencies that were involved in

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ensuring an incident-free event. They can justifiably feel proud of their achievements and the country rests easy.

The moot question is: for how long? The stolen cars are yet to be recovered and the potential for their misuse continues to loom as large as ever. Recovering these vehicles would provide nothing more than temporary respite since thousands of vehicles are stolen across India every day and any one of these could be used to give effect to the nefarious designs of terrorists. It, hence, makes sense to look for a permanent solution.

A week prior to January 26, a permanent solution presented itself in the promise of the seven satellite Indian Regional Navigation Satellite System (IRNSS) with the launch of the fifth navigation satellite, IRNSS-1E on January 20. This paper dwells on the IRNSS and explores its inherent potential to track stolen vehicles and thereby combat terrorism and crime. Additionally, it also dwells on the potential of IRNSS to foster international cooperation in fighting crime and terrorism well beyond the Indian borders by enabling vehicle geo-location services onto India's contiguous neighbours wherein the footprint of IRNSS lies. As a corollary, it also explores the potential of IRNSS to promote cross-border trade and development.

EXPANDING GPS USE TO THE REAL PROBLEMS OF MAN AND SOCIETY

Of the 195 countries on earth, only five boast of a space-based navigation satellite system. These include the US with NAVSTAR GPS, Russia with its GLONASS, China with its BEIDOU, Japan with its QZSS and now India, with its IRNSS. The European Union's Galileo SATNAV system is a multi-nation conglomerate and with nothing more than two out of thirty satellites launched, is, thus, far from fruition. By contrast, India on January 20, 2016, launched the fifth satellite (IRNSS-1E) of its seven satellite constellation, enabling its coverage all across India. The constellation is designed for regional and national rather than global utility; consequently, even with five out of seven satellites launched, it can be of considerable use to the nation. Optimal utility would certainly come about only after the entire system is in place, tested and operationalised, but nothing inhibits application of these "*advanced technologies to the real problems of man*

and society". The above quote draws on the vision of Vikram Sarabhai, the doyen of the Indian space programme who made the statement decades ago. The eminent wisdom of the statement resonates deep and clear even in the present context and is as applicable as ever. The real problems are fluid and ever changing as also is the opportunity in advanced technologies to adapt to, and counter, problems. Space capabilities, in particular, provide a bouquet of opportunities that can be applied to combat the modern day challenges of terrorism and organised crime. The present discourse does not intend to go into the wide variety of uses of space, but only attempts to explore the applicability of the IRNSS to one of the most pressing problems presently vexing security agencies – the recent spate of stolen cars and other vehicles that are apprehended to be used by terrorists to further their nefarious designs.¹ In order to gauge the potential for applicability of the IRNSS to terrorism and crime, it would be in order to briefly examine the system in its present form and the same is undertaken below.

ARCHITECTURE AND CONFIGURATION OF THE CONSTELLATION

Descriptively speaking, the IRNSS consists of a constellation of seven satellites and a large ground segment. In addition to the seven original satellites, the Indian Space Research Organisation (ISRO) announced in January 2016, that four more will be built as spares. Three of the seven satellites in the IRNSS constellation are planned in GEO (Geostationary Orbit) at 32.5°, 83° and 131.5° East, while the other four satellites are in an inclined Geosynchronous Orbit (GSO) with an inclination of 29° with longitude crossing at 55° and 111.75° East.² All the seven satellites would have continuous radio visibility with Indian control stations. The IRNSS is expected to provide positional accuracies similar to the

-
1. Somreet Bhattacharya, "Ahead Of Republic Day, Car With 'Army' Stickers Stolen From Delhi's Lodhi Garden", *The Times of India*, January 24, 2016, <http://timesofindia.indiatimes.com/city/delhi/Ahead-ofRepublic-Day-car-with-Army-stickers-stolen-from-DelhisLodhi-Garden/articleshow/50707003.cms>. Accessed on January 25, 2016.
 2. For details, see presentation by S Sayeenathan, ISRO, Associate Director (SATNAV) to United Nations Office of Outer Space Affairs (UNOOSA), United Nations Office of Outer Space Affairs, November 2013, <http://www.unoosa.org/pdf/icg/2013/icg-8/5.pdf>. Accessed on November 19, 2016.

Global Positioning System (10 m over the Indian landmass and 20 m over the Indian Ocean) in a region centred around the country with a coverage extending up to 1,500 km from India between longitude 40° E to 140° E and between latitude $\pm 40^\circ$. Thus, while the system is conceptually similar in broad terms to other navigation systems like the NAVSTAR system of the US, Russia's GLONASS, etc, it is quite different from these global navigational systems that are capable of locating any point on planet earth. It is distinct in that the design has been tweaked to provide a greater regional visibility and accuracy. Each satellite has two payloads: a navigation payload and CDMA ranging payload in addition with a laser retro-reflector. The payload generates navigation signals at L5 and S-band. The design of the payload makes the IRNSS system interoperable and compatible with GPS and Galileo. The satellites are based on the I-1K (I-1000) bus. Both GEO and GSO satellites have the same configuration. Overall, the status of the system is as below (Table 1):

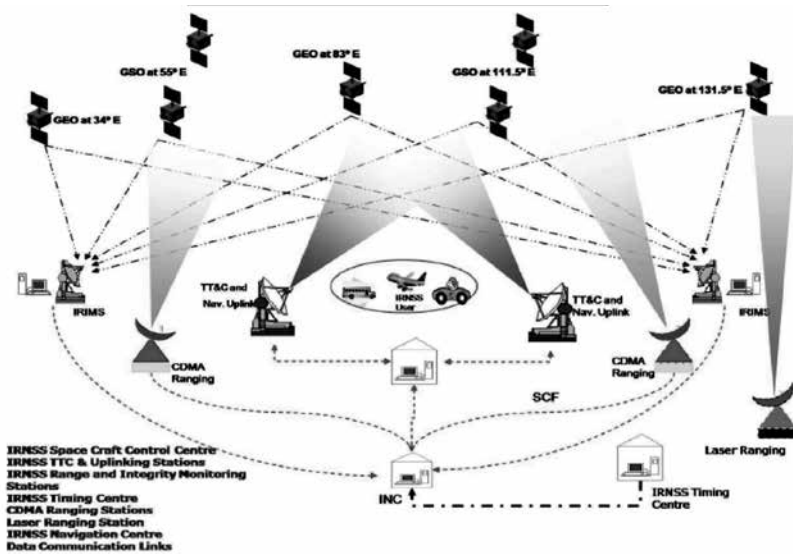
Table 1: Present Status of IRNSS

Name	International Code	Launch Date	Operational Status
IRNSS-1E	2016-003A	2016-01-20	In Orbit
IRNSS-1A	2013-034A	2013-07-01	In Orbit
IRNSS 1B	2014-017A	2014-04-04	In Orbit
IRNSS 1C	2014-061A	2014-10-15	In Orbit
IRNSS 1D	2015-018A	2015-03-28	In Orbit

The IRNSS will have two types of signals in L5 (1176.45 MHz) and S (2492.028 MHz) band. Both L5 and S-band consist of two downlinks. IRNSS provides two basic services: the Standard Positioning Service (SPS) for common civilian users and Restricted Service (RS) for special authorised users. The system can be augmented with local area augmentation for higher accuracy. Going by ISRO reports,³ the overall configuration is as pictorially depicted in Fig 1:

3. Ibid.

Fig 1: IRNSS Configuration

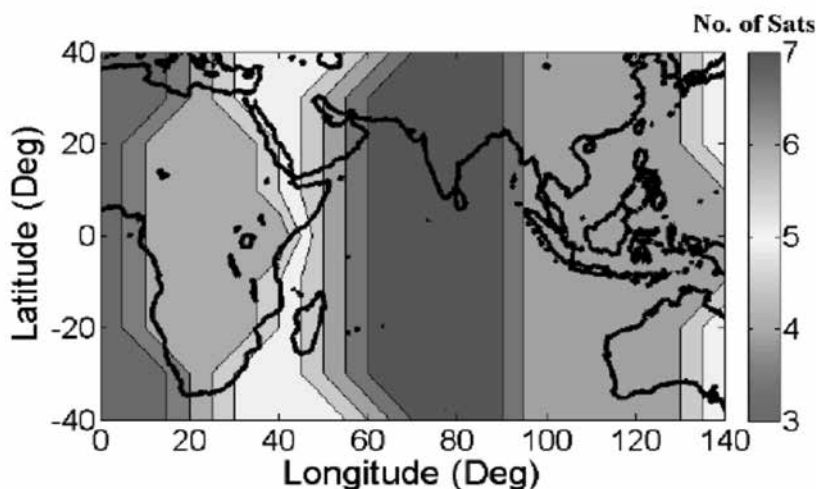


COVERAGE, VISIBILITY AND ACCURACY OVER THE INDIAN SUBCONTINENT

Based on the publicly available description of the IRNSS, it would be possible to arrive at a broad inference of its coverage, accuracy and visibility. Earth coverage is primarily a measure of the number and geometry of satellites available. In this case, since the design primarily comprises three satellites in GEO that typically cover 1/3 rd of the earth, the Indian subcontinent is well covered and the satellites will always be visible to users on the Indian subcontinent. Simply put, these satellites tend to revolve around the earth in a heavily synchronised manner so that for the observer in India below, these satellites are just stationary objects in the sky. The other four satellites are geosynchronous satellites that are in orbits inclined with the earth's equator. For an accurate positioning on earth, at least four satellites are required. The inclination of the geosynchronous satellite orbits is 30° and, hence, these satellites create an 8-shaped loop that extends up to 30° on either side of the equator. Thus, broadly the coverage would be over India and to a certain extent beyond. Going by a 2008 ISRO report, the coverage is in the region of -40° to 60°

latitude and 0° to 140° longitude. Accordingly, the IRNSS satellite coverage⁴ for a full seven satellite configuration would be as below (Fig 2):

Fig 2: IRNSS Satellites Visibility



The obvious inference from the above figure is that with five satellites, the IRNSS has reached the half-way mark and that full visibility would be possible once the constellation is in place. Secondly, the coverage reduces beyond the Indian subcontinent, indicating reducing positional accuracy. The above limitations are, however, not relevant to the context of geo-locating vehicles within the Indian subcontinent. The present coverage and accuracy are sufficient to locate and track vehicles anywhere in the Indian subcontinent. In its present configuration, the system is accurate enough to allow geo-location of motor vehicles to at least 10 m, if not less. The same is sufficient for the purpose of locating vehicles anywhere in India. The point is, it is a readily available system that can be optimally tasked to enhance security. With the system being readily available, it would be in order to review the scope of the problem, existing and potential and how permanent the solution can be.

4. VG Rao et.al., "Analysis of IRNSS over Indian Subcontinent", PLAN Research Group, January 2011, plan.geomatics.ucalgary.ca/papers/ion_itm11_rao%20et%20al_jan11.pdf. Accessed on January 20, 2016.

THE SCOPE OF THE PROBLEM

The Indian population is 1.28 billion strong and going by the open source year 2012 figures of the Government of India, the number of motor vehicles registered is over 160 million, and considering a compounded annual growth rate of over 10 percent,⁵ the present numbers are undoubtedly mind boggling. With millions of vehicles being added every day, the problem would only keep rising. Equally onerous is the task of the police, intelligence and security agencies in locating and keeping a track, etc of the one-odd suspected explosive laden terrorist vehicle amongst the millions. For instance, the number of vehicles in Delhi is over 10 million, far exceeding the sanctioned strength of Delhi Police which stands at 69,645.⁶ Even with all the other security agencies thrown in, the ratios just do not match up. The proverbial needle in the haystack appears less of a challenge in the circumstances. The needle would retain its external character, whereas in this case, the car/vehicle can be easily repainted, redesigned to change its external character. The task would get more onerous as India develops further, and more vehicles keep adding to the inventory. Human beings have their limitations; the registration process, the scan and check processes and the vast variety of processes in the loop related to motor vehicles are largely manual with their own individual subsets of problems and procedures.

THE POTENTIAL OF IRNSS IN COUNTERING TERRORISM, CRIME AND ENHANCING SECURITY

It is here that the IRNSS can contribute significantly. The system is indigenous, controlled by India, the data stays within India and the system at present covers all India.⁷ The present system of vehicle

5. Figures given in the text are upto 2012. For details, see "Category-wise Registered Motor Vehicles in India During 1951-2011", Government of India, <https://data.gov.in/visualize3/?inst=556520bb219fe4ee7ad43af7cd98089b&vid=607#> and "Motor Vehicles", http://mospi.nic.in/Mospi_New/upload/SYB2015/CH-20-MOTOR%20VEHICLES/MOTOR%20VEHICLE-WRITEUP.pdf. Accessed on January 25, 2016.

6. "Bureau of Police Research and Development- ID Note No. 14014/05/05-UTP," Ministry of Home Affairs, April 2, 2008, <http://bprd.nic.in/writereaddata/linkimages/1424233217-delhi-police.pdf>. Accessed on January 25, 2016.

7. For complete description of the IRNSS related to its coverage, accuracy, operations, etc, see Kiran Krishnan Nair, "The IRNSS 1E: Another Keystone for Make in India", *CAPS In Focus*, January 21, 2016, http://capsindia.org/files/documents/CAPS_Infocus_KKN_07.pdf. Accessed on January 25, 2016.

monitoring in India is based on individually procured NAVSTAR or GLONASS GPS receivers that are not indigenous, and though suitable for day-to-day affairs, are not suitable in circumstances like the present wherein a terrorist strike with a stolen vehicle is imminent and no means of locating or tracking the vehicle are readily available. For security uses, a mandatory installation of IRNSS locator devices within the engine of the vehicle or any other such area that cannot be easily tampered with, needs to be undertaken. This is significantly different from the High Security Number Plates (HSNP) method that is aimed only at tamper-proof vehicle numbering. An IRNSS locator chip can carry a wide variety of information, including the vehicle number, owner details as also location, tracking, navigation and other information. A single chip in this case is much more versatile, purposeful and effective. Software that sparks off an alarm in case of tampering with the chip can easily be fabricated; such systems are already available in the market and can be designed to be part of the system. A vehicle tracking system on an IRNSS platform that combines the use of space-based automatic vehicle location in individual vehicles with software that provides requisite information for a comprehensive picture of vehicle location is the need of the hour. Real-time vehicle information can be viewed on electronic maps using SATCOM or the standard internet, with suitably designed software. In some cases, vehicle tracking is already in use for fleet management, coordination, etc; the same concept needs to be expanded to a national level on an Indian platform. The prime issue related to application of the above system may be expected to relate primarily to affecting coordination amongst the multifarious agencies which, given the scope of the problem of terrorism and the fact that it affects everybody equally, should not be a difficult proposition. The next contentious issue would be related to infringement of the privacy rights of individuals, etc. However, these could be allayed by using active and passive location techniques. Active locators would enable real-time tracking and location, whereas passive ones would only retain information and become active only on being triggered by the central system. Depending on the state of emergency, the system can be tweaked to be as suitable as possible by shifting from the 'passive' to the 'active' mode of tracking.

EXAMINING POTENTIAL OF IRNSS TO PROMOTE TRADE AND SECURITY IN INDIA'S NEIGHBOURHOOD

All of the above aspects have the potential for use amongst India's contiguous nations. As a matter of fact, the most critical aspect of the endeavour, the geodetic data and reference maps are already available with the Survey of India. The capabilities of the IRNSS only need to be superimposed on the existing data. It needs to be borne in mind that the Survey of India is the oldest scientific department of the Government of India.⁸ It was set up in 1767, as forerunners of the army of the British East India Company went about exploring and mapping India as a prelude to their eventual conquest of undivided India. Bit by bit, the tapestry of the terrain of undivided India was surveyed, mapped and recorded. A rich repository of the same now rests largely unused with the Survey of India. To cite a case in point, the first ever published map of Mount Everest and its environs dating back to 1830 is placed as Appendix A. The map is extraordinary in its detail, clarity as also accuracy, and is available on the site of the Survey of India.⁹ It is of as much use today as in 1830. The said map covers up to 20 degrees covering Nepal, Pakistan and China. Other maps of undivided India would cover even farther. For instance, the British survey of undivided India included Afghanistan¹⁰ that was systematically surveyed, mapped and recorded by the British as early as the 19th century. Down south, the Survey Department of Sri Lanka also has its origins in British imperial expansion and was similarly mapped. On similar lines, to India's east, the survey of Burma was conducted in the 18th century by the Survey of India, as also that of Bhutan and Bangladesh.¹¹ Thus, the basic grid map has common origins and, hence, is common in form and substance. Aerial mapping, review, updates have been carried out in some cases, but the basic character of the terrain mapping continues to be the same in India's neighbourhood. As a matter of fact, the basic geodetic map is the

8. For details, "Survey of India", Government of India, <http://www.surveyofindia.gov.in/pages/view/10-about-us>. Accessed on January 29, 2016.

9. Ibid.

10. Refer home site of Afghanistan Geological Survey, Ministry of Mines, <https://www.bgs.ac.uk/afghanminerals/Index.htm>. Accessed on January 29, 2016.

11. n. 8.

same, hence, stitching the parts back to the original mosaic for a composite map will be not a herculean endeavour.

All of this geodetic information, combined with the 30 degree coverage of the IRNSS would enable comprehensive geo-locating around India's contiguous countries. The terrain has not changed significantly in any of these areas. Man-made constructions can always be updated and with the kind of geo-information tools now available, are no longer a challenge, as in the 18th century. The next related aspect is that of motor vehicle registration by states which is a standard practice across all sovereign states, including those in India's neighbourhood. At the same time, the menace of vehicle thefts is common to all countries neighbouring India. Using the IRNSS potential for geo-location of vehicles, not only in India but also in its neighbourhood, which is on a common geodetic datum, would serve the purposes of India and its neighbours at minimal costs. It would promote the spirit of international cooperation, particularly amongst national police and security forces in many more ways than one. A variety of modalities for cross-flow of information and data sharing could be worked out once the basic principles have been decided upon. It goes without saying that the velvet glove of Indian diplomacy would be called upon to play a seminal role in the endeavour.

Apart from security is the potential of the IRNSS to promote cross-border trade, transport of goods, tourism and people-to-people contact, etc. For example, fleet management and transportation of goods, particularly perishable items would become more easily manageable and less cumbersome, once the vehicles are tracked by trade, customs and security agencies on either side. It makes the present system more efficient, faster, cheaper and less cumbersome at one go. It also enables allaying suspicious activities and reduces the chances of smuggling across borders. Imaginative use of the IRNSS would enable a variety of applications, for instance, a mutually agreed upon no-vehicle zone up to one kilometre of the border can be agreed upon that reduces the chances of smuggling and other nefarious activities. In summation, the IRNSS has tremendous use and application within the country, however, limiting its use to the country's borders amounts to sub-optimal use of a very potent system. It makes enormous sense to expand the potential of IRNSS

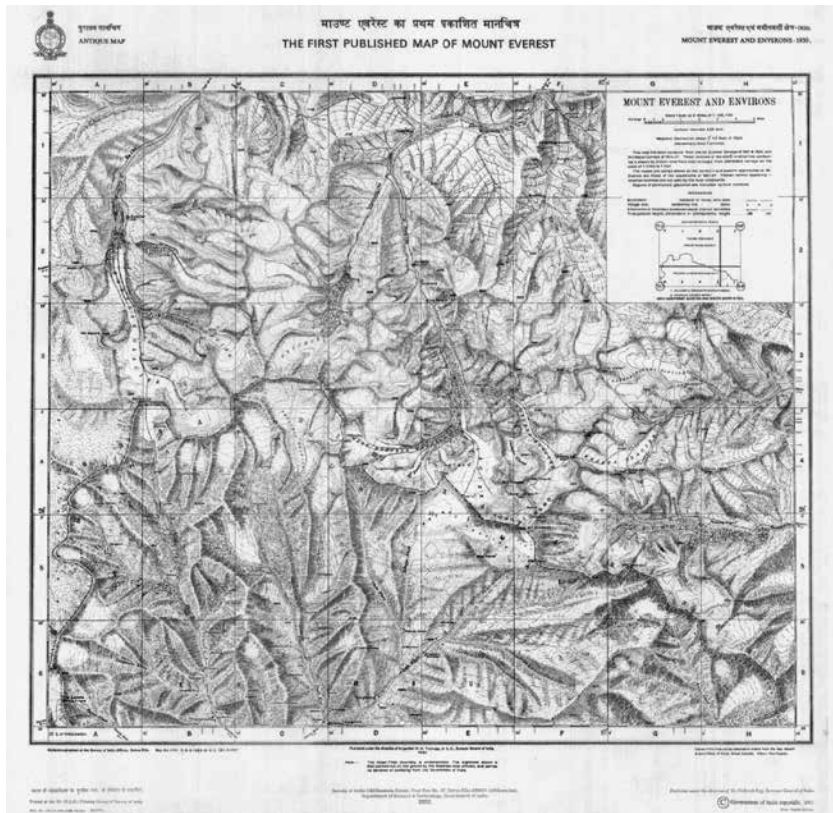
to India's neighbours to enhance regional security and promote international cooperation.

CONCLUSION

The technology is now readily available to the country, the information pertaining to all vehicles in India is available with the Government of India, the requisite software is also available within the country and, hence, there is little reason why all these disparate elements cannot be put together to obtain a system that can be applied to the real problems of man and society that plague the nation today and are likely to accentuate in the future.

APPENDIX A

Fig 3: Map of Mount Everest



TECHNOLOGY FORECASTING TECHNIQUES: AN AID TO PERSPECTIVE PLANNING IN DEFENCE

MANOJ KUMAR

To plan properly requires knowledge of future opportunities and threats. When the technologies are changing at a rapid pace, forecasting techniques help to unravel the mystery a bit. The impact of this action can be studied if we merge this act with integrated planning. It should be appreciated at the onset that technology forecasting and strategic planning are not the same. A forecaster tries to predict the shape different variables would take in the future and the planner sets targets with the help of these predictions. It is, thus, easy to see them as two complementary acts; unilaterally, their use/efficacy is limited. A technological forecast describes not what the future will be but only what it could be and this way becomes an aid to decision-making.¹ The strategic plan should, thus, start where the technology forecast ends.

This paper focusses on understanding the forecasting methodologies with a view to see the best applicable methods suited for perspective planning by the Indian defence establishment.

Group Captain **Manoj Kumar** is a United Nation Environment Programme (UNEP) resource person. He writes extensively on Environment and Technology management.

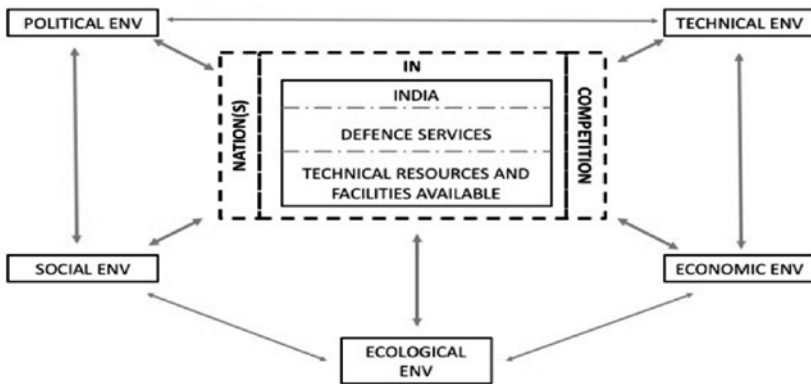
1. MJ Cetron. and ND Donald, in JR Bright et. al., eds., *Producing the First Navy Technological Forecast* (New Jersey: Prentice-Hall Inc., 1969), pp. 619-630.

Perspective planning by the three Services is done with a view to establish capabilities and maintain an edge over envisaged adversaries. It leads to development and/or procurement of military hardware (and capabilities) in a defined timeframe.² The exercise should be based on many factors that include projected capabilities of the adversary that the military would have to contend with, power projection scenarios as per the requirement of the national political will, and new non-traditional challenges, which may be non-military in nature, etc. It must be clear from this that the exercise is extremely complex. It is also seen in the context of resources that are projected to be available for executing the plans, as otherwise the process would remain wishful thinking.

TECHNOLOGY FORECASTING MODEL

A technology forecast in the defence sector would have to ensure that the environment in the social, political, economic, geo-strategic, technical, and even ecological fields is taken into account. A model of technology development for the defence Services in the Indian context is given in Fig 1.

Fig 1: Forecasting Environment Model



2. <http://www.defencenow.com/news/611/indias-military-modernisation-up-to-2027-gets-approval.html>. Accessed on July 24, 2015.

The factors in these environments affect technology development and facilities in the defence arena, directly as well as through mutual interaction. This model has to be kept in mind when we choose the appropriate forecasting technique(s).

THE INDIAN CONTEXT

Forecasting requires coherent sets of assumptions, and each such set should be derived from a specific, designated projection of a broader scenario of changing patterns. Defence and technology are both part of the socio-ecological field.³ In this context, the following assumptions need to be emphasised.

- Technical forecasting in the Indian context is a reactive exercise as technology leadership in the defence sector is not yet a priority. The focus and resources are diverted towards self-sustenance.
- Forecasting would be based on the geo-strategic and geo-political environment. Thus, their accuracy of understanding is essential.
- Normally, in technology forecasting, one goes by the state of technology at present and projects the same after a period of time. In technology forecasting for perspective planning, one would go for projection of the state of the technology environment that would be faced after a period of time and it may/ may not have any symbiotic relation with the present status in a particular place. Thus, a trend of development of the environment may not exist. This is a major difference between technology forecasting, which is done normally and what is done as a precursor to perspective planning for defence. There is no literature available in the public domain that shows this explicitly but there are many pointers to such an exercise being done by the defence services of the developed countries.

TECHNIQUES OF FORECASTING

There are two distinct approaches to forecasting techniques. The main difference between the two is that one is concerned with the opportunities/ threat environment and the other is concerned with the goal or the objective. Both these approaches have quantitative

3. R Rhyne, *Technological Forecasting Within Alternative Whole Futures Projections*, in *Technological Forecasting and Social Change*, Elsevier Inc., Vol.6, 1974, pp. 133-162.

as well as qualitative techniques. The accuracy of the forecast is not the exact accuracy of the forecast but the choices which it provides for resources allocation to the policy-makers. This paper would cover only the opportunity-based exploratory techniques pertinent to the three Services. For Research and Development (R&D) and indigenisation management, exploratory and normative techniques have to be used in tandem.

EXPLORATORY TECHNOLOGY FORECASTING

This technique is opportunity oriented and most useful for defence planners when faced with a competitive environment. It can be used in two ways. One of them would be to generate new information without linking it with the trend of development and the other is to methodically use the data available on development, to project the future state of the technology environment. A combination of these approaches may well be the best alternative. In both cases, the focus is on the end use of the technology and its interaction with the different environments. For example, it may be said that geo-strategic considerations would demand that India requires sixth generation fighter aircraft (technologies included) by 2030. This forecast would have to be based on the Chinese economic and political environment as this technology is highly capital intensive and a downward trend in the Chinese economy would deter them from making such huge investments. Going further, decision-making on the subject can only take place by considering the technical progress of the same stakeholders, which may ultimately determine the timeline of development. If innovations in China are not commensurate with these technological developments, then India can take a call on the time and amount of investment in the same.

The two approaches described above as part of exploratory techniques are followed through the use of the following families of techniques:⁴

1. **Expert Opinion**
 - Delphi (iterative survey)
 - Focus groups (panels, workshops)

4. AK Firat, et. al., *Technology Forecasting – A Review, Working Paper* (Composite Information System Laboratory, Sloan School of Management, MIT, 2008).

- Interviews
 - Participatory techniques
 - Brainstorming [Nominal Group Process (NGP)]
 - Vision generation
2. **Trend Analysis**
 - Trend extrapolation (growth curve fitting)
 - Trend impact analysis
 - Precursor analysis
 - Long wave analysis
 3. **Monitoring and Intelligence Methods**
 - Monitoring (environmental scanning, technology watch]
 - Bibliometrics (research profiling; patent analysis, text mining)
 4. **Scenarios**
 - Scenarios (scenarios with consistency checks; scenario management)
 - Scenario-simulation (gaming; interactive scenarios)
 - Field Anomaly Relaxation (FAR) Method
 5. **Statistical Methods**
 - Correlation analysis
 - Demographics
 - Cross impact analysis
 - Risk analysis
 6. **Descriptive Methods**
 - Analogies
 7. **Modelling and Simulation**
 - Agent modelling
 - Cross-impact analysis
 - Life cycle analysis – curve fitting
 - Causal models
 - Complex Adaptive System (CAS) Modelling (Chaos)

Only the techniques that are useful and can be applied as tools for forecasting to help the process of perspective planning by the defence Services would be explained in brief. Any of these can be further developed, if and when an actual forecasting exercise is to be performed.

(a) Delphi

The literature points to the dominance that expert opinion methodology occupies in forecasting in any social field such as the defence sector or the field of technology. This technique combines the expert opinions on 'likelihood' and 'timeframe' into a single position. In Delphi, a sequence of individual question and answer sessions is followed by information and opinion feedback derived from analysing the initial response data. This feedback to the experts, which includes the reasoning and/or justification behind each individual expert's forecast, allows the other experts to revise their forecast in the light of the new information. A single acceptable forecast is typically agreed upon after several rounds of this process.⁵

This technique was started by the RAND Corporation in the 1960s. Typically used by the national governments in many developed economies,⁶ it starts with a questionnaire that may contain numerical estimates of the dates of development/occurrence, probabilities of happening, level of performance, etc. The results of the first round are summarised with the median and quartile of the responses calculated. This is then fed back as response to each expert, with a request to review/revise the first estimates, where appropriate. With succeeding rounds, for the deviations beyond the inter-quartile ranges, justification of response is asked for, and, thus, a consensus emerges. There are many variations of this versatile technique and all help to remove biases, bandwagon effect and halo effect, due to the anonymity of each expert allowing them to modify responses after considering views without a face attached to it.

(b) Trend Extrapolation and Substitution Method

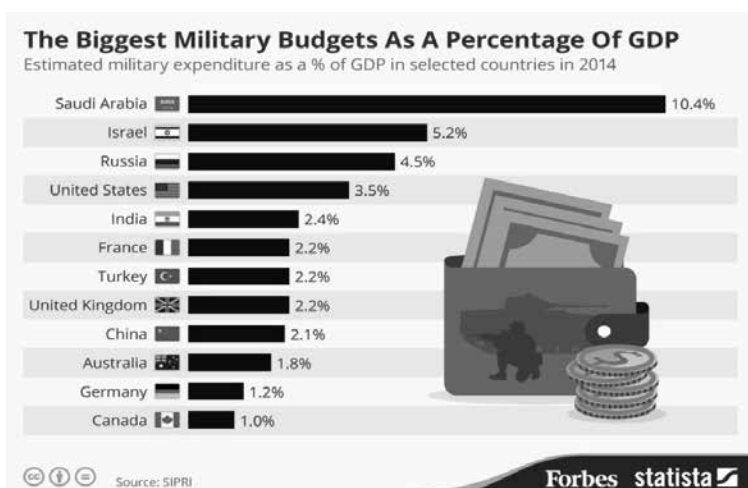
In this method, data is analysed with a focus on identifying future trends, which can then be used to predict competitive capabilities. It is obvious that there is a need for authentic historical data and also predictability of the data to extrapolate the trend of growth. The trend of growth can follow (a) linear; (b) exponential; (c) double exponential

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5. Reuven R Levary and Dongchui Han, "Choosing a Technological Forecasting Method", *Industrial Management*, 37(1), January 14, 1995.
 6. E Jantsch, *Technological Forecasting at National Level in Japan: Notes from a Brief Visit, Technology Forecasting 1* (American Elsevier Publications Company Inc.), pp. 325-327, 1970.

extrapolations; or (d) simple/multiple regression, etc. These theories apply mainly in economic environmental growth trends (albeit not in recession or depression trends). It is also seen that the shorter the time period of extrapolation, the better the confidence in extrapolation.⁷ It also assumes that interacting forces would continue to act in a similar way so as to make the trend follow the same pattern. This is seldom true in the social fields. Hence, its use in forecasting technology trends for perspective planning is quite limited—it is more useful as an environmental study aid for scenarios of the Delphi methods.

Even as an aid to environmental study, it is important to choose the variable and its subset with care. Consider the case of defence expenditure of different countries as per the Forbes site in Fig 2,⁸ which is normally calculated as percentage of Gross Domestic Product (GDP).

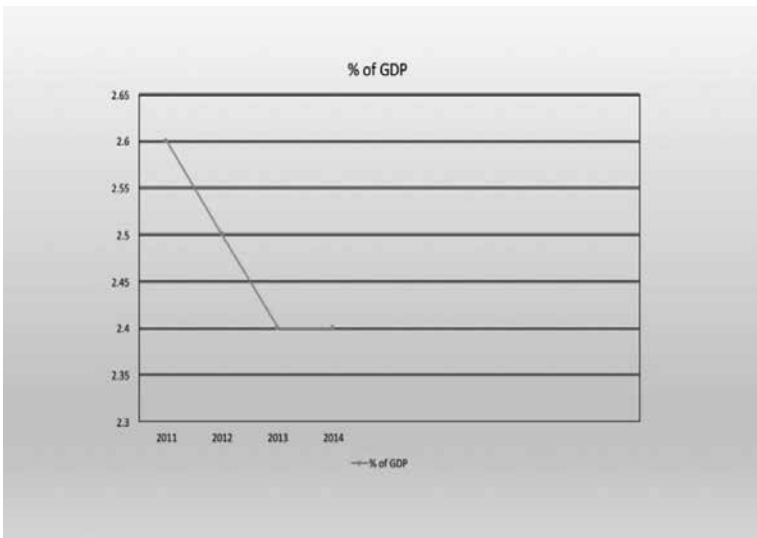
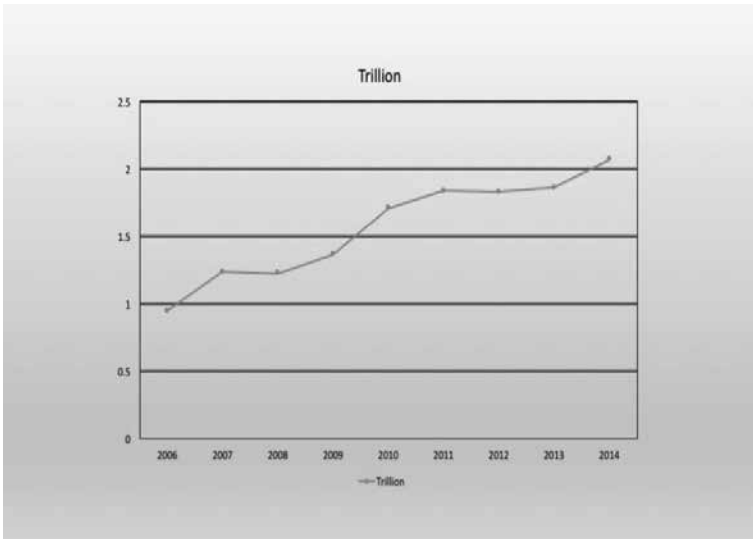
Fig 2



India is shown to have a defence budget at 2.4 percent of the GDP, above China (2.1 percent). Now consider the following charts.

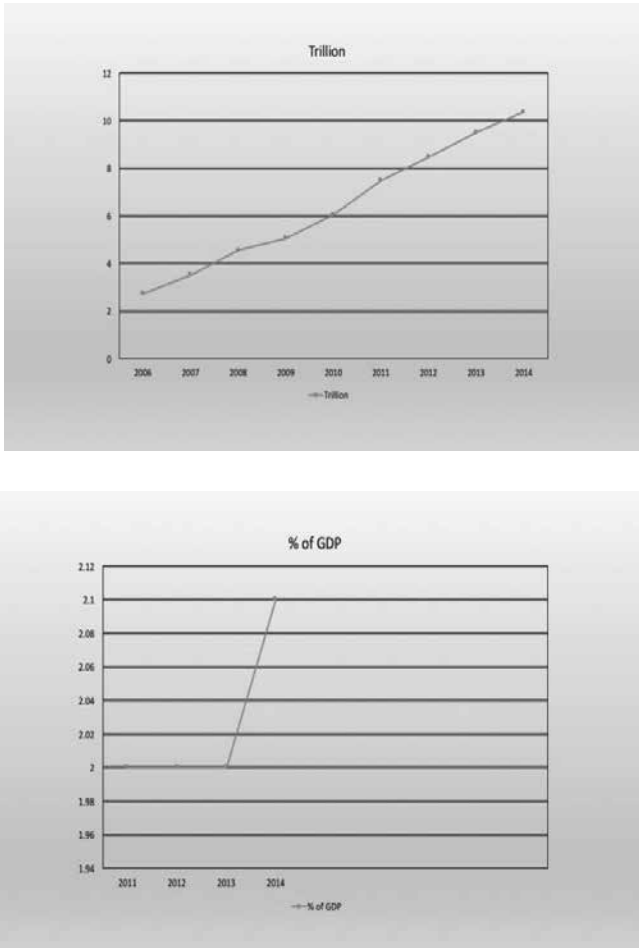
7. PK Rohatgi et. al., *Technology Forecasting* (Tata McGraw Hill, 1979), p. 2.
 8. Data on GDP and defence expenditure from the World Bank and Forbes site <http://data.worldbank.org/indicator/MS.MIL.XPND.GD.ZS> and <http://www.forbes.com/sites/niallmccarthy/2015/06/25/the-biggest-military-budgets-as-a-percentage-of-gdp-infographic-2/>. Accessed on November 7, 2015.

Fig 3: Indian GDP Trend and Defence Expenditure as % of GDP



Source: Figures based on data from the World Bank and Forbes.

Fig 4: Chinese GDP Trend and Defence Expenditure as % of GDP



Source: Figures based on data from the World Bank and Forbes.

It is obvious from Figs 3 and 4 that the Indian defence budget, with a slightly higher percentage of GDP is no match for the Chinese defence budget with a lower percent of GDP. Thus, comparing the defence budgets as percentage of GDP (as a variable) for highly capital intensive technology like in the field of fifth generation aeronautics, would show a totally wrong forecast trend. In reality, China is far ahead in fifth generation aeronautics (technical monitoring) while

India has recently pulled out of its collaborative development programme with Russia, with capital being one factor for this. In this scenario, India will be better off observing how the fifth generation aeronautics would develop in China (through various forecasting techniques in tandem) and then assess the cost of obtaining the technology at that time (by import or self-development – through the normative forecasting technique) from the US or Russia. This brings us to another technique used in trend forecasting: the substitution method.

The substitution technique (the Fisher-Pry method)⁹ implies that the parameters of a technology can be often forecast by extrapolating the rate of substitution of that technology by some other recent technology. The following concepts of substitution technique can actually be applied for perspective planning in the defence sector.

If a substitution has progressed as far as a few per cent of the total consumption, it will proceed to completion.

The fractional rate of substitution of a new technology for an old technology is proportional to the remaining amount of the old technology left to be substituted.

In the fifth generation aeronautics case alluded to earlier, India can actually forecast the availability of fifth generation aircraft with China by studying the rate at which China is achieving success in the subset fifth generation technologies (radar, stealth, etc.) and substituting it in their fourth generation aircraft. A sum total of the rate of development of these technologies would determine the availability of fifth generation aircraft that China has been working on.

(c) Correlation Analysis

Correlation analysis is a continuation of trend extrapolation. It was first focussed on as a technology forecasting tool by Martino¹⁰ in his work on correlating speeds of combat aircraft and transport/commercial aircraft. He advocated that while studying the trend of a

9. Rohatgi, et. al., n.7.

10. J.P. Martino, *Correlation of Technological Trends, Technology Forecasting* (American Elsevier Publishing Company Inc., 1970), pp. 347-354.

parameter of one technology, it may be easier to predict it by relating it to the trend of the same parameter of related technology (which leads or lags by a fixed or predictable period). The forecast of the date of the supersonic transport plane by this method was found to be reasonably accurate.

It may be seen that many times, one technology may be a successor to more than one precursor technologies. In this case, multivariate correlation can be applied. For example, if India wants to judge the timeline of hypersonic missiles, it may have to do a trend extrapolation of precursor technologies of propulsion, aerodynamics and material development, etc. as these have interactive effects in hypersonic flights.

A note of caution is required here. Trend extrapolation requires authentic data and correlation analysis requires a still greater amount of data. Availability of data in the field of defence and that too, which can be related to the past is a difficult proposition, and, thus, these techniques would have limited usability in our domain of work.

(d) Monitoring or Strategic Technology Scanning

This is a powerful technique used when forecasting is to be based on uncertainty arising due to large interaction with environmental changes. It is based on the fact that technology development is a strategic facet of nation building. Porter's definition of technology strategy¹¹ may be applied as "a nation's approach to the development and use of technology". He suggests that "technology strategy must address three broad issues:

- what technologies to develop;
- whether to seek technological leadership in those technologies;
- the role of technology licensing."

Strategic technology analysis helps provide a theoretical basis for monitoring the landscape that consists of the environment, which has already been described in Fig 1. This scan, when applied to defence and the competing national landscape, is essentially an exploration of the major features of defence product development and significant patterns of change of the defence services. An

11. M.E. Porter, *Competitive Advantage* (New York: Free Press, 1985).

essential feature of such an action is to “look ahead” and not just to “keep abreast”.

The monitoring action can use the following resources when applied to the technological landscape in the defence sector:

- Strategic text emanating from the competing nation (think-tanks, White Papers and data sources like *Jane's*, SIPRI, etc.).
- Scientific and technical literature from target sources (print/electronic).
- Technology forecasting writings describing the evolutionary trends from target sources (print/electronic).

The right scanner of these landscapes should be a person who has both technological as well as strategic operational exposure. The focus has to be on the monitoring of significant change.

(e) **Scenarios and Simulation**

Forecasting scenarios were first used at the RAND Corporation in the early days of the Cold War and have found many uses in military strategies. Herman Kahn used these for a controversial purpose when he published a nuclear deterrence work¹² using different rigorous scenarios. This method uses a composite picture of various possible future happenings through the interrelationships of many predicted events. The complexity of the inter-dynamics of whole events lends importance to this method as it would be difficult to use any other tool when whole projections of events are involved at this scale.

In technology forecasting for perspective planning, it is important to consider the potential performance of new technologies and their application by competing nations in the defence sector. At present, the spillover of technologies, including dual-use ones, would require their careful monitoring as per the variables before building scenarios on their future use in our area of interest. As an example, IBM ultimately lost the personal computer market despite early dominance as they could not correctly build the scenario of improved technical value due to falling prices and the network effect.¹³

With scenarios come the testing, which is done by dynamic

12. H. Kahn, *On Thermonuclear War* (Princeton, N.J.: Princeton University Press, 1960).

13. National Research Council of the National Academies, *Persistent Forecasting of Disruptive Technologies* (Washington, D.C.: The National Academy Press, 2009), at www.nap.edu

simulation and war-gaming. The latter is more of a tactical tool but extending the simulation to the scenarios developed above, can lead to some fascinating strategic insights. Military leaders have used simulation since the early days of combat. War games play an important role when human judgement-based technology developments take place. They test a technological capability by testing it against the response of various stakeholders who are actually played by domain experts who interact with one another over time to shape the outcome.

(f) Analogies

Analogies are an essential part of the human cognitive effort since the time the process of understanding starts. It is the most logical reasoning process. Hofstadter and Sanders have carried it forward to the basic sciences:

Over the past hundred years or so, making bold analogical extensions in physics has become so standard, so par for the course, that today, the game of doing theoretical physics is largely one of knowing when to jump on the analogy bandwagon, and especially of being able to guess which of many competing analogy bandwagons is the most promising (and this subtle selection is made by making analogies to previous bandwagons, of course!)¹⁴

Analogies if selected and constructed properly can help an analyst forecast technology with the use of techniques like Delphi/ expert opinion. In fact, experts have devised a methodology of applying and using analogies for forecasting.¹⁵

- The search and selection of source domain or domains;
- The comparison of the source domain to the target; and
- The evaluation of fit between source domain and the target domain.

14. D. R. Hofstadter, and E. Sander, *Surfaces and Essences: Analogies as the Fuel and Fire of Thinking* (New York: Basic Books, 2013), p 213,

15. S. W. Cunningham, and T. Schumacher, "Structured Analogies as a Mode of Prediction", 5th International Conference on Future-Oriented Technology Analysis (FTA) - Engage Today to Shape Tomorrow, Brussels, November 2014

Some amount of creativity and research rigour is required for applying analogies to forecasting technologies. Let us consider the hypothetical case of trends of demand for electric cars and LED televisions. For the purpose of this example, let us assume that the environmental factors for the growth of demand for both (electric cars and LED televisions) are very much similar. Due to similarity of the environment, we can draw an analogy between the two growths of demand. The demand for electric cars becomes the target domain and the demand for LED televisions becomes the source domain. Then, in the case of electric cars, we need not extrapolate growth/trend figures but follow the S-curve of development of LED televisions and this would help tactical decision-making for the cars.

Analogies fall in the domain of those forecasting techniques that do not have a direct link to the past data and, hence, have a greater role to play in the field of defence. Consider the following example.¹⁶

Oil Prices 1980s

Oil prices rose about 4x (from about \$3/barrel to more than \$12/ barrel) in 1973-74 in the first concerted Organisation of the Petroleum Exporting Countries (OPEC) action. They rose again in 1979 following the fall of the Shah in Iran to about \$30 per barrel. Forecasts in the mid-1980s expected that oil prices would continue to rise in the next decade. Extrapolations of the 1970s data supported continually rising prices.

Marchetti (1980) observed dramatic swings in energy prices that occurred in waves of approximately 50 years duration. He forecast that, consistent with the long-term historical pattern, oil prices would decline and remain low for the next 20 years, a forecast that turned out to be accurate. This example strongly demonstrates the claim of the potential value of analogy.

(g) Modelling and Bibliometrics

A model is a structured way to represent the dynamic interaction of parts of the real world. Models exhibit future behaviour of complexities that emerge when scenario-based variables are forecast in dynamic spaces. Using software-based network tools, these variables are modelled as following their own patterns. This requires a good understanding of

16. Hofstadter and Sander, n.14.

the underlying factors that bring out a change in the pattern. Applying the correlation-based models is one of the simplest ways forward but considering the complexities of the environment, the need for neural networks is urgent. The drawback is increased complexity, requirement of domain experts, and availability of vast data.

Modelling can be coupled with the use of bibliometrics, which is defined as a method of analysing textual database with quantitative methods.¹⁷ With the underlying assumption that growth in the number of publications on a technology would actually coincide with growth in that field of technology. Using S-curves, this is then modelled to understand when a particular technology would mature.

It should also be appreciated that a bibliometric study of Indian capabilities in a particular field would be monitored by competitive nations and sometimes commercial offers by friendly nations would be based on the forecast model of India being close to a breakthrough in a particular technology.

CONCLUSION

The US Navy carried out its first technological forecast in 1968.¹⁸ Technology forecasting has been applied for policy-making at the national level in various sectors like education, agriculture, health, etc. It has also been used in the defence sector in many developed countries but not in India. Defence forces carry out a long-term (15 years) strategic planning for technology procurement and planning a force structure. This is termed as the Long-Term Integrated Perspective Plan (LTIPP). This planning has been plagued by inadequate resource allocation, thus, frustrating efforts for a strategic outlook. It is expected that with a scientific approach to perspective planning, a high degree of higher management buy-in can be achieved, thus, paving the way for commensurate resource allocation. This approach requires use of technology forecasting tools for credibly laying down of alternatives for the consideration of the policy-makers.

Globally, defence planning has evolved in a way to disseminate information to the public as well as keep some associated component

17. A. Suominen and M Seppänen, "Bibliometric Data and Actual Development in Technology Life Cycles: Flaws in Assumptions", *Foresight*, vol. 16, issue 1, 2014, pp. 37-53.

18. Cetron and Donald, n.1, pp. 185-195.

secret. This trend has not really caught on in India where long and medium term defence plans are not brought out as a formal document. This has been acknowledged by the government in Parliament and its Standing Committee on Defence.¹⁹ When the defence services need to visualise the technology which would be needed in the future, the use of exploratory tools of technology forecasting will become essential. Most of the variables of the environmental scenario cannot be quantified and for others, data for defence related developments is restricted from the public domain. This constrains the use of available exploratory forecasting tools and methods like Delphi, monitoring, scenario, analogies and bibliometry, etc. A long-term forecast may not be highly accurate but decisions based on forecasts are likely to be closer to the emerging environment rather than those based on individual instincts or guess work. Therefore, the forecasting exercise should become an important component of perspective planning. With technology forecasting being made an integral part of the defence planning process, it is expected that policy-makers would have increased confidence in allocating the resources to match the planning targets.

19. Report of the Standing Committee on Defence, 1995-96, Tenth Lok Sabha, Defence Policy, Planning and Management, Lok Sabha Secretariat, New Delhi, April 1996.

ELECTRONIC WARFARE: RUSSIA'S ENHANCED CAPABILITIES

E DILIPRAJ

The resurgence of Russia in the global political scenario began in 2000, but it became evident only after the Ukraine imbroglio in 2013 and in the ongoing fight against the Islamic State (IS) in the Syrian conflict, involving its all out support for the Bashar al Assad regime. Russia's active engagement in these conflicts has not only brought Russia back in world politics but has been successful in reducing the influence of the US and its allies in driving these conflict situations as per their will, and has also led to a proxy Cold War situation between the two sides. The cat and mouse game of the Cold War politics between the US and the erstwhile USSR has resurfaced in the present conflicts on all possible fronts. One such front where both these countries are busy engaging each other is through deployment of their advanced Electronic Warfare (EW) equipment in the ongoing conflicts.

Electronic warfare saw its first wide scale military application during World War II and, since then, the capabilities of different countries in this area have evolved immensely in tandem with the growth in the field of electronics and communications around the world.

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In recent times the Western mainstream media has reported Russia's use of advanced EW systems in Ukraine and Syria, mainly dwelling on the victim narrative of the US and its allies. According to this narrative, the US and its allies claim to have suffered heavily due to the Russian EW systems in the conflict zones. For instance, Col. Laurie Buckhout, former chief of the US Army's electronic warfare division stated, "*Russia maintains an ability to destroy command-and-control networks by jamming radio communications, radars and GPS signals.*"¹ She further emphasised the disadvantage of the US in regard to capability in EW by stating, "*Our biggest problem is we have not fought in a comms [communications]-degraded environment for decades, so we don't know how to do it,...We lack not only tactics, techniques and procedures but the training to fight in a comms [communications]-degraded environment.*"²

While such narratives about the incapability of the 'superpower' of the world are hard to believe, simultaneously, it necessitates an understanding, and awareness, of the 'superior' capability of the Russians in the field of EW, that deters the US and its allies. The realisation that radio-electronic warfare is an integral part of modern day warfare has enabled Russia to develop advanced EW systems which it has effectively deployed in the recent conflict zones, including the Ukraine and Syria.

LATEST ELECTRONIC WARFARE SYSTEMS OF RUSSIA

Since the early 21st century, Russia's efforts to revive its military industrial complex have resulted in enhanced defence manufacturing capabilities which has been reflected in its rich inventory of advanced EW systems, including the Krasukha-4 and Borisoglebsk-2. A brief look at these advanced systems individually would help understand their relevance better.

Krasukha-4: This advanced EW system manufactured by a Russian company under the Radioelectric Technologies Group (KRET) has an effective radius of more than 300 km (186

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1. Joe Gould, "Electronic Warfare: What the US Army Can Learn From Ukraine", *Defense News*, August 4, 2015, <http://www.defensenews.com/story/defense/policy-budget/warfare/2015/08/02/us-army-ukraine-russia-electronic-warfare/30913397/>. Accessed on January 19, 2016.
 2. Ibid.

miles) and can operate in strategically important areas where reconnaissance aircraft and spy satellites of the enemy are active. The antennas of the Krasukha-4 are mounted on the BAZ 6910-002 four-axle KAMAZ multi-terrain vehicle and this mobile unit is capable of operating at temperatures ranging from sub zero to plus 50°C (Centigrade).³ This mobile EW unit is a broad-band multifunctional jamming system designed to electronically 'blind', deny and disrupt the intelligence gathering capabilities of the enemy by intercepting its communications from Low Earth Orbit (LEO) surveillance satellites, various reconnaissance aircraft, radar guided ordinance and drones. The Krasukha-4 (Fig 1) functions by creating powerful jamming at fundamental radar frequencies and other radio emitting sources.⁴

According to various reports, the Krasukha-4 is being deployed in the Syrian conflict zone by Russia to provide EW cover for its air strikes and also to counter the intelligence gathering abilities of its opponents, including the North Atlantic Treaty Organisation (NATO). With such a system, Russia can effectively neutralise the EW assets of NATO, including the LEO spy satellites of the US, Lacrosse/Onyx series, NATO's E3 Sentry (AWACS-Airborne Warning and Control System), the US Air Force's (USAF's) RC135 Rivet Joint, the Royal Air Force's (RAF's) Sentinel R1, and the Reaper drones.⁵ The intelligence gathered from the Krasukha-4 can also be utilised to monitor various enemy aircraft movements by identifying the frequency and signal characteristics. For instance, the US LEO spy satellites Lacrosse and AWACS operate in the S-band, Sentinel in the X-band and drones in the J-band.⁶ This intelligence, when combined with tracking of the position of the satellites and aircraft, can be used to deny or disrupt the enemy's communications.

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3. Andrei Kislyakov, "Russian Military Makes Strides in Electronic Warfare", *Russia Beyond the Headlines*, December 20, 2013, http://rbth.com/science_and_tech/2013/12/20/russian_military_makes_strides_in_electronic_warfare_32797.html. Accessed on January 21, 2016.
 4. David Stupples, "How Syria is Becoming a Test Zone for Electronic Warfare", *CNN*, <http://edition.cnn.com/2015/10/09/opinions/syria-electronic-warfare-russia-nato/>. Accessed on January 22, 2016.
 5. Ibid.
 6. Ibid.

Fig 1: Krasukha-4 in Serbia

Source: "Russian Electronic Warfare Systems Spotted in Serbia", *InSerbia News*, October 5, 2015, <http://inserbia.info/today/2015/10/russian-electronic-warfare-systems-spotted-in-syria/>, Accessed on January 22, 2016.

Borisoglebsk-2: This recently inducted EW system is being considered as the core of the radio-electronic warfare of the tactical units of the Russian Army.⁷ Developed by Sozvezdie for the Russian Army since 2004 and manufactured by United Instrument Manufacturing Corporation (UIMC), this EW system successfully passed its evaluation testing in December 2010 and went into serial production in 2011. One Borisoglebsk-2 (Fig 2) is mounted on nine MT-LB armoured vehicles and together it merges four types of jamming stations with a single control console and uses a single algorithm for both radio intelligence and jamming modes.⁸ Although the exact operating range of this modern EW system is unknown, it is claimed that the system "has a wider range of radio surveillance and suppression, hi-speed frequency scanning, a longer operative range and a higher

7. Anton Valagin, "Russia Surges Ahead in Radio-Electronic Warfare", *Russia & India Report*, May 15, 2014, http://in.rbth.com/economics/2014/05/15/russia_surges_ahead_in_radio-electronic_warfare_35247. Accessed on January 23, 2016.

8. "Borisoglebsk-2", http://www.deagel.com/Aircraft-Protection-Systems/Borisoglebsk-2_a003063001.aspx. Accessed on January 23, 2016.

precision of spatial localization of radio wave emission sources".⁹

Reports also suggest that this EW system has the ability for signals intelligence and jamming the lines of short and ultra-short waves from ground and aviation sources, to suppress mobile communications and satellite-based navigation signals, and more. The system also utilises innovative technical solutions for building radio reconnaissance and automated control systems. It uses broadband covert signals for noise immunity and high-speed data transfer.¹⁰ Mikhail Artemov, the chief designer of electronic warfare and weapons control systems in UIMC, opines "The experience and innovative solutions that have gone into creating it [Borisoglebsk-2] have opened up a new stage for developing modern electronic warfare systems. Borisoglebsk-2 can suppress all modern radio communications from the world's most developed countries."¹¹

Some Ukrainian sources report that the Borisoglebsk-2 was deployed by Russia in the Ukraine conflict in the Donbas region during the second half of 2015.¹² Moreover, the first set of supplies of the Borisoglebsk-2 includes 24 systems out of which, 10 systems were delivered to different units of the Russian Army as part of their armaments refurbishment programme in 2014-15.¹³

9. "New-Generation Electronic Warfare: More Russian Troops Equipped", *Sputnik*, July 09, 2015, <http://sputniknews.com/russia/20150709/1024427154.html>. Accessed on January 25, 2016.

10. "UIMC has Delivered the First Set of Borisoglebsk-2 Electronic Warfare Systems", *Rostec News*, April 20, 2015, <http://rostec.ru/en/news/4516361>. Accessed on January 23, 2016.

11. *Ibid.*

12. Falcon Bjorn, "The Newest Electronic Warfare Systems 'Borisoglebsk-2' are Noticed at the Border and in Donbas", <https://informnapalm.org/en/4723-the-newest-electronic-warfare-systems-borisoglebsk-2-are-noticed-at-the-border-and-in-the-ato-zone/>. Accessed on January 23, 2016.

13 n.10.

Fig 2: A Unit of Borisoglebsk-2 in Siberia

Source: "Russia's East Siberia District Receives New Electronic Warfare Systems", Sputnik News, January 19, 2016, <http://sputniknews.com/russia/20160119/1033345635/russia-new-electronic-warfare.html>, Accessed on January 24, 2016.

Khibiny: Also developed by KRET, the Khibiny is a relatively small torpedo shaped EW container which can be fitted on the wingtips of an aircraft in order to make the flying machines invulnerable to all modern means of defence and enemy aircraft. An aircraft fitted with the Khibiny, if under a missile attack, is alerted and covered with a radio-electronic protective hood, which prevents the missile from reaching the target and deviates it from its course. According to Vladimir Mikheev, the deputy director general of KRET, the Khibiny is installed on the Su-30, Su-34 and Su-35 aircraft of the Russian forces.¹⁴ Therefore, it can be speculated that it would have been not so easy for Turkey to successfully shoot down the Russian Su-24 aircraft in Syria in December 2015, if Russia had been in the practice of installing the Khibiny on its Su-24 aircraft too.

Moskva-1: This passive radar system which can remain invisible to the enemy's radars by not emitting any signals, can be used to scan the air space, determine the type of object based on the signals

14. Tatyana Rusakova, "Blind & Conquer: Top 5 Russian Radio Electronic Warfare Systems", *Russia & India Report*, February 16, 2015, http://in.rbth.com/economics/2015/02/16/blind_and_conquer_top_5_russian_radio_electronic_warfare_systems_41393. Accessed on January 24, 2016.

it emits, and classify it as a missile or an aircraft. In addition, the intelligence collected by the Moskva-1 (Fig 3) can also be used to effectively guide air defence systems to the enemy target invisibly by using the Moskva-1 deductions rather than using their own radars. It is believed that the Moskva-1 has a maximum range of 400 km.¹⁵

Fig 3: Moskva-1



Source: Tatyana Rusakova, "Blind & Conquer: Top 5 Russian Radio Electronic Warfare Systems", *Russia & India Report*, February 16, 2015, http://in.rbth.com/economics/2015/02/16/blind_and_conquer_top_5_russian_radio_electronic_warfare_systems_41393. Accessed on January 24, 2016.

Zontik: Developed by the Russian company called Aviakonversiya, the Zontik ('Umbrella') is a Territorial Defence System (TDS) which can provide comprehensive electronic warfare coverage over the concentrated territory by preventing attacks by modern precision weaponry and by interfering with the signals and communications of enemy aircraft. Oleg Antonov, the Director of Aviakonversia, believes that nearly four jamming devices of the Zontik positioned strategically in the South Ossetia and Abkhazia

15. Ibid.

regions and working together, could bring all of Georgia under attack by electronic warfare.¹⁶ However, the status of induction of the Zontik in the Russian Army remains unclear.

Krasukha-2: This is a ground-based EW system that is claimed to be effective particularly against Airborne Warning and Control System (AWACS) aircraft and missiles. The Krasukha-2 (Fig 4) operates with a radius of 250 km and any AWACS within this range, has its radar affected with interfering radiation from this EW system. Also the Krasukha-2 is claimed to have the capability to influence the brain of the fired missile and change the flight task, thereby, guiding the missile to a false target and exploding it.¹⁷

Fig 4: Krasukha-2



Source: Tatyana Rusakova, "Blind & Conquer: Top 5 Russian Radio Electronic Warfare Systems", *Russia & India Report*, February 16, 2015, http://in.rbth.com/economics/2015/02/16/blind_and_conquer_top_5_russian_radio_electronic_warfare_systems_41393. Accessed on January 24, 2016.

Apart from the above mentioned EW systems, there are also other systems which are in active service in the Russian forces, such as:

- **Infatuna:** This jams the enemy's radio communication in the short

16. Kislyankov, n. 3.

17. Rusakova, n. 14.

wave and ultra-short wave frequencies. Installed on armoured vehicles, aircraft and other military vehicles.¹⁸

- **Lesochek:** Operations are similar to the Infauna, however, it is highly portable and can fit into a backpack or a suitcase.¹⁹
- **Rtut-BM:** Provides cover to troops against enemy artillery fire by affecting the proximity-fuse, making the ammunition explode at a safe height.
- **President-S:** Protects aircraft from missiles fired from Man Portable Air Defence Systems (MANPADS).

Apart from developing advanced EW hardware, Russia also trains its forces in the use of such advanced EW equipment and conducts regular drills and competitions within its forces to keep its personnel well-aware about such systems as well as knowhow to use them in a real war scenario. For instance, around the time when the global media was speculating about Russia's active intervention in the Syrian conflict in the later part of 2015, Russia conducted a massive drill named "Center 2015" involving around 150 units of EW assets, including the Krasukha-4, Borisolebsk-2, Infauna, etc.²⁰ Also in the second half of 2015, in the southern military district, in Chechnya, Russian EW specialists competed against each other in the areas of deployment speed, search and detection of unidentified radio signals and electromagnetic blanketing.²¹ Most of the EW specialists in the Russian forces are trained in the EW training establishment located in the Tambov region.²²

HOW IMPORTANT IS EW TO RUSSIA?

As EW gives the ability to manipulate the electromagnetic spectrum in order to blind, deny or disrupt enemy communications and also to sense where enemy targets are, so that one can attack the enemy

18. Valagin, n. 7.

19. Ibid.

20. "About 150 Units of Electronic Warfare Hardware Used in Russia's Centre-2015 Drills", TASS, September 15, 2015, <http://tass.ru/en/defense/821141>. Accessed on January 25, 2016.

21. n. 9.

22. "Borisoglebsk-2 Unique EW Complex to be put into Service in the Eastern MD Tank Formation", Ministry of Defence of the Russian Federation, December 30, 2015, <http://eng.mil.ru/en/mcis/news/more.htm?id=12073112@egNews>. Accessed on January 25, 2016.

first, or deny the enemy the opportunity to attack, such means of warfare have become one of the preferred tools in the modern day war scenario. However, Russia's choice for the development and deployment of its advanced EW assets in the recent conflicts has more justifications.

In the post Cold War era, the Russo-Georgian War in 2008 witnessed a militarily rejuvenated Russia in action. However, in spite of a few instances of diplomatic reactions from the West through NATO against Russian actions in the conflict, the two Cold War belligerents, did not face a standoff until the start of the Ukraine conflict in 2013. As the conflict in Ukraine escalated, both the US and Russia got actively involved in a proxy Cold War-like situation for the first time after the Soviet disintegration, and the situation has continued in Syria too since 2015. These conflict situations are seen as a favourable condition by Russia in order to test its recently developed advanced weapon systems in a real war scenario against a powerful opponent such as NATO. As a result, along with other systems, Russia also deployed its advanced EW assets, including the Krasukha-4 and Borisoglebsk-2 in the Ukraine conflict and, subsequently, in the Syrian conflict. It is rightly pointed out by Stupples that the EW assets help "to avoid being spied on, [thereby enabling] Russia to blind the eyes and silence the ears of NATO reconnaissance and intelligence-gathering assets so its actions are not open to close scrutiny".²³

Apart from these, the use of the recently developed advanced EW assets against NATO would also help Russia in gathering intelligence about NATO's reactions and counter-measures which would, in turn, aid Russia in upgrading its systems in the future. It should be noted here that NATO has an exclusive EW unit called Joint Electronic Warfare Core Staff (JEWCS) with a host of advanced EW assets for its operations. In addition, the US Army is developing a 'Multi-Functional Electronic Warfare' (MFEW) programme mainly focussing on offensive electronic attack capability. This programme is expected to reach initial operating capability in 2023 and full operating capability in 2027.²⁴ Therefore, in the light of these

23. David Stupples, "How Syria is Becoming a Test Zone for Electronic Warfare", *CNN*, October 9, 2015, <http://edition.cnn.com/2015/10/09/opinions/syria-electronic-warfare-russia-nato/>. Accessed on January 24, 2016.

24. Gould, n. 1.

developments in the West, the need for Russia to upgrade its EW assets is imperative. Moreover, since the US is still under-resourced, with a total of only 813²⁵ personnel dedicated to the EW mission, and its systems modernisation drive in EW is expected to become fully operational only after a decade, Russia has an edge over the US in this particular field.

Finally, successful use of advanced EW assets in real war scenarios might attract a few foreign countries to opt for the purchase of Russian EW systems like the Krasukh-4, Borisoglebsk-2, Khibiny, Moskva-1, Krasukah-2 which would further add up to Russian defence trade. Unofficial sources suggest that there are already a few takers for Russia's EW systems, especially the Krasukha-4, due to its comprehensive capabilities, and this trend is expected to increase and spread to other systems too.

CONCLUSION

While "winning the war before the battle begins" is perceived as the concept for future warfare, the advanced EW hardware is intended to be part of those future weapon systems, along with cyber and directed energy weapons, which would enable a country to achieve such a feat. Although EW assets are more tactical in nature, further advancements in this field are expected which would also include advancements in EW counter-measures. Such developments, when combined with enhanced cyber warfare capabilities would act as tremendous force-multipliers for any state's offensive and defensive capabilities.

While Russia's cyber warfare capabilities are fairly known to the world through the Estonia and Georgia episodes, its EW capabilities are now evident in Ukraine and Syria. The West, especially the US, is aware of these capabilities of Russia, and is constantly developing its own abilities in every aspect possible. Eventually, the Electronic Counter-Counter-Measure (ECCM) capabilities of the US and also those of NATO are bound to increase after studying the latest Russian EW systems' performance in the conflict zones. These acquired

25. Josh Cohen, "Electronic Warfare that the West Needs to Catch up to", Intersection Project, January 8, 2016, <http://intersectionproject.eu/article/security/do-not-underestimate-russian-military>. Accessed on January 25, 2016.

lessons and experiences would help shape the EW programmes of the West, like the MFEW of the US, in developing superior EW systems in the future. Therefore, this cat-and-mouse game between the US and Russia will continue in the future conflicts too, though Russia has scored a point over the US in the sphere of EW at present.

UNDERSTANDING ISLAMIC STATE'S EXPANSION: THE WILAYAT STRATEGY AND ITS IMPACT ON SOUTH ASIA

AERSH DANISH

The Islamic State (IS) has always had an ambition to be the global face of Islamist terrorism. As a part of its strategy to expand globally, the IS utilised its high profile to encourage existing Islamist groups and disenfranchised sub-factions around the world to join its growing caliphate. During the occupation of Iraq, the IS had already established a large and intricate network of foreign fighters, which was in itself remarkable for an Islamist terrorist group. By 2014, it became incumbent upon it to portray a more international façade, and as a part of the attempt to become a global movement, it declared the re-formation of the Islamic caliphate, on June 29, 2014, with Baghdadi as the caliph of the Muslim world.

Theoretically speaking, this is an important milestone as a caliphate is not just a political entity but also a path to salvation for Muslims. A Muslim, in order to attain his rightful place after death is bound to express his oath of allegiance or *baya'a* to the caliph. In the absence of the caliphate, Muslims would not be able to declare their allegiance, and, thus, one may argue, that by re-forming of

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the caliphate, the IS fulfilled a major Islamic obligation. Further, as per Islamic jurisprudence, the legality of all other political order becomes void under the caliph's authority, as was declared by the IS spokesperson Abu Muhammad al Adnani:

We clarify to the Muslims that with this declaration of the *khilafah*, it is incumbent upon all Muslims to pledge allegiance to the *khalifah* Ibrahim and to support him ... The legality of all emirates, groups, states, and organizations becomes null by the expansion of the *khilafah's* authority and arrival of its troops to their areas. ... Listen to your *khalifah* and obey him. Support your state, which grows every day...¹

However, the process of declaring someone as a caliph is complex. To be the caliph, one must meet the following conditions outlined in Islamic law:

- Be a Muslim adult man of Quraysh² descent;
- Exhibit moral probity and physical and mental integrity; and
- Have '*amr*' or authority.

The last criterion is the hardest to fulfil as it requires that the caliph have territory in which he can enforce the Islamic law. It is the territory that grants legitimacy to the caliph, and that explains why the IS needed to exist as a geographical entity in the first place. Now, the IS not just controls territory in parts of Iraq and Syria, but its leader, Baghdadi is a learned religious scholar having obtained a PhD in Quranic Studies from the University of Baghdad, and, most importantly, he is from the Quraysh tribe. These attributes cement his position as the caliph. Further, in theory, all Muslims are obliged to immigrate to the territory wherein these laws of the caliph are applied, and this could be one of the reasons why large throngs of radical Muslims from all over the world have moved to the regions controlled by the IS to express their support to the group.

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1. Abu Mohammed al-Adnani, "*Hadha wa'ad Allah*" (Al Furqan Media, June 29, 2014, <http://jihadology.net/2014/06/29/al-furqan-media-presents-a-new-audiomessage-from-the-islamic-states-shaykh-abu-mu%E1%B8%A5ammad-al-adnani-al-shami-this-is-the-promise-of-god/>. Accessed on February 6, 2016.
 2. Quraysh is the tribe to which Prophet Muhammad belonged.

However for the IS, the caliphate is not to be limited to the areas under its control in Iraq and Syria. Its plans to go global were reflected in the aforementioned words of al Adnani. This would not just be an expansion of the terrorist ideology of the IS, but a geographical expansion in the form of the creation of *wilayats* or provinces of the caliphate. The large number of foreign fighters that it has managed to gather from different parts of the world have become intrinsic in the organisation's plans to go global. They were crucial in expanding the network back into their own countries, and, as a result, by November 10, 2014, the IS had successfully managed to obtain an oath of allegiance from groups in Libya, Algeria, Egypt, Yemen, and Saudi Arabia, thereby, forming the first batch of provinces in those countries.³ IS Chief Baghdadi accepted the oaths three days later, thereby, formalising the creation of the respective *wilayat*. The numbers grew by November 2015, and the IS claimed to have managed 19 *wilayats* in Syria and Iraq—including two (al-Furat and al-Jazeera) that crossed the internationally recognised state boundaries— and 18 internationally, in Libya, Saudi Arabia, Bahrain, Yemen, Algeria, Egypt, the Afghanistan-Pakistan region (Af-Pak), Nigeria, and the Russian North Caucasus.⁴

A study of the formation of these *wilayats*, reveals the following patterns: firstly, the first batch of countries (where the *wilayat* were created) was already in a state of social, political, and religious instability. Further, these countries had contributed a large number of fighters to the IS and sections of their population that supported the IS cause. This could explain why it was comparatively easier for the IS to foray into these countries. Secondly, the expansion into other nations predominantly involved regions that already had Islamist extremist groups (mostly Al Qaeda affiliates) operating in them and, thus, were regions where such extremist ideology enjoyed support. Lastly, and most interestingly, the *wilayats* were targeting existing terrorist organisations that had pledged allegiance to Al Qaeda. Thus, the IS was taking over the Al Qaeda cadres to grow stronger — marking the development of rivalry between the two organisations. Several known leaders of the Al Qaeda in the Arabian Peninsula (AQAP) in Yemen

3. Charles Lister, "Jihadi Rivalry: The Islamic State Challenges al-Qaeda", Brookings Doha Centre, *Analysis Paper*, no.16, January 2016, p.16.

4. *Ibid.*, p.17.

indicated their potential allegiance to the IS as early as January 2014. Al Qaeda in the Maghreb or AQIM's Central Region branch first pledged allegiance to the IS in March 2014, three-and-a-half months before the declaration of the caliphate.⁵ These encroachments of the IS further fuelled speculations about the developing rivalry, with the IS posing a major threat to the already broken Al Qaeda.

IS IN SOUTH ASIA

Most significant in terms of the IS' competition with Al Qaeda has been its expansion into the Af-Pak region by coopting elements from among the Taliban, and the Tehrik-e-Taliban Pakistan (TTP). These forays of the IS into South Asia have turned the region into a theatre of competition between Al Qaeda and the IS. The rivalry between the two groups has been most visible in this region, which has many smaller groups that had been vying for Al Qaeda's attention while it was perceived as the deadliest terrorist groups in the world. Also, these groups romanticise the idea of violence, which is being displayed by the IS, and this has made the IS a powerful contender, threatening the dominance of Al Qaeda in the region. However, what makes this expansion interesting is the fact that South Asia and, more specifically the Af-Pak region, is the birthplace of Al Qaeda, and for the IS to go head on against Al Qaeda in this region is symbolic of its tackling the organisation on its home turf.

The process of infiltrating Al Qaeda's heartland had begun in March 2014, when nine AQC (Al Qaeda Central Command) figures announced their defection to the IS. Remarkably, these included the brother of Al Qaeda's most reputed ideologue, Jordanian cleric Abu Muhammad al Maqdisi.⁶ The Tehreek-e-Khilafat became the first group from South Asia to declare its allegiance to the IS in June 2014 and although it was a small group, it still reflected the fact that the ideology of the IS could resonate in the region. Since then, several Taliban, leaders such as Mirwais, from the Hizb-e-Islami, a faction

5 Aaron Y. Zelin, "The War Between ISIS and al-Qaeda for Supremacy of the Global Jihadist Movement", The Washington Institute for Near East Policy, Research Note, n.20, June 2014, http://www.washingtoninstitute.org/uploads/Documents/pubs/ResearchNote_20_Zelin.pdf. Accessed on February 7, 2016.

6. Thomas Joscelyn, "Previously Obscure al Qaeda Leader Responds to Dissenters," *The Long War Journal*, May 30, 2014, http://www.longwarjournal.org/archives/2014/05/post_7-3.php. Accessed on February 10, 2016

of the Taliban, have spoken about the possibility of aligning with the IS as well. The October 2014 defection of five prominent TTP leaders to the IS suggested that a significant change was afoot. Among these five was Shahidullah Shahid, the TTP's chief spokesman, and Hafiz Saeed Khan, who had been named a potential successor to the killed TTP leader Hakimullah Mehsud in late 2013. Together, the five effectively represented the TTP's authority across their regional stronghold of the Federally Administered Tribal Areas (FATA). Further, by January 2015, several extremist outfits and their leaders from Pakistan's Hyderabad, Karachi, Quetta, the rural Sindh, and Khyber Pakhtunkhwa (KPK) had declared their allegiance to the IS. Interestingly, KPK is a major stronghold of the TTP.

THE WILAYAT OF KHORASAN

Thus, it came as no surprise when IS spokesman Al Adnani announced the formation of the IS' Khorasan *wilayat* on January 26, 2015. The South Asian *wilayat* encompasses Afghanistan, much (if not all) of Pakistan, and parts of neighbouring countries.⁷ At the helm of the IS in this region is Hafiz Saeed Khan, the former leader of the main Pakistani Taliban faction in the Kurram Agency of Pakistan's FATA.⁸ Hafiz Saeed and several other commanders in the group come from tribal areas and districts that have featured sectarian violence between militants from the Sunni Deobandi subsect and Shias.

The declaration of the formation of the Khorasan *wilayat* was one of the most visible reflections of the growing rivalry between Al Qaeda and the IS. However, with deeper analysis, the politics of this announcement can be extrapolated to incidents that took place long before the January declaration. On September 4, 2014, Al Qaeda leader Ayman al Zawahiri released a video declaring the formation of a new wing of Al Qaeda to orchestrate its activities in the Indian subcontinent, with a focus on India, Myanmar and Bangladesh.⁹ The new wing is

7. Arif Rafiq, "Islamic State Goes Official in South Asia", *The Diplomat*, see <http://thediplomat.com/2015/02/islamic-state-goes-official-in-south-asia/>. Accessed on February 10, 2016.

8. Ibid.

9. Praveen Swamy "Al-Qaeda Declares New Front to Wage War on India, Calls for Jihad in the Subcontinent", <http://indianexpress.com/article/india/india-others/al-qaeda-leader-ayman-al-zawahiri-announces-formation-of-india-al-qaeda/99/>, *The Indian Express*, September 4, 2014. Accessed on February 8, 2016.

called *Jamaat Qaidat al-jihad fi'shibhi al-qarrat al-Hindiya*, or Organisation of the Base of Jihad in the Indian Subcontinent and is headed by Asim Umar, a senior member of the Pakistani Taliban.¹⁰ In isolation, this may seem as if Al Qaeda is directly targeting South Asia, however it has to be noted that it has never before had an official branch for the region. Although, the region serves as the birthplace for the group, it had never formed a regional affiliate to look after the activities of South Asia. In fact, Al Qaeda had never directly ventured into the Indian subcontinent and most of its linkages with the terrorist groups of the region had been through the outfits operating in Pakistan and Kashmir. This could be attributed to the fact that most of the groups that operate in the region are older than Al Qaeda and have consistently fought on the lines of separating Kashmir from the Indian state. However, with the rise of Al Qaeda, they did pledge their support to the group in order to become participants in the larger terrorist theatre.

Thus, the formation of the new wing of Al Qaeda has been a matter of debate among academics and security analysts. A major trigger for the formation of this group could be seen in the statement of some of the senior Taliban leaders that came out on September 2, 2014, just two days before the South Asian wing was created. In their statement, the leaders had announced that they might consider aligning with the IS. Thus, the formation of the South Asian wing could be seen as an attempt to reemphasise Al Qaeda's dominance in the region, in the face of a growing IS. South Asia, especially Pakistan and Afghanistan, has always been the centre of command for Al Qaeda and its leader Zawahiri had taken an indirect yet strong jab at the IS in his video (where it declared the formation of the South Asian wing) by asking the various smaller groups to maintain unity in the region, which is in stark contrast to the manner with which IS is clashing with all the rival groups. Also, the message stated that the new wing shall not oppress the local population, as opposed to what the IS is notorious for. In an implicit strike, Zawahiri said: "If you say that by your *jihad* you do not want but the pleasure of Allah, then you must not race for governance and leadership at the first opportunity."¹¹

10. Ibid.

11. William Maclean, "Al-Qaeda Announces India Wing, Renews Loyalty to Taliban Chief", *Reuters*, September 4, 2014, <http://uk.reuters.com/article/2014/09/03/uk-india-qaeda-idUKKBN0GY2EK20140903>. Accessed on February 4, 2016.

Tackling the challenge of the swaying allegiance of the Taliban, the Al Qaeda leader acknowledged the role of the Taliban and thanked it for providing safe havens for their followers.

The IS controls very little or almost none of the land in this region and, hence, such a declaration of the formation of the Khorasan *wilayat* is more symbolic than actual. The IS, as of now, is more inclined towards operating from the regions it controls in Iraq and Syria, although it has made its global ambitions very clear and India has been mentioned in its releases several times. There has been a striking increase in the number of attacks targeting Shias, Sufis and other Islamic sects since the IS' declaration, which reflects the growing influence of the group in the region.¹² The IS affiliated operations in the Af-Pak region have since steadily increased and the announced death of Taliban leader Mullah Omar in late July has been a further boon to its potential.

WHY WILAYATS? WHAT IS THE IS PLANNING?

A recent report from the Brookings Doha Centre has compared the IS' strategy of global expansion by forming provinces to the "ink spot" strategy, which militaries use to subdue large hostile regions with relatively small numbers.¹³ The occupying force starts by establishing a number of small pockets of safe areas dispersed over the region. Then, like an ink spot spreading on paper, it pushes the opposition out from each area, expanding its control and growing in its geographical area until they join up, leaving only pockets of resistance. Similarly, the IS is targeting areas in which the Islamist ideology has already been incubated and exploited, and is expanding its reach to slowly cover most of the Asian continent.

As per the Brookings report, a majority of new IS franchisees increased their operational tempos after pledging *baya'a*, which served not only to demonstrate their determination to prove themselves, but also immediately destabilised local, regional, or national dynamics.¹⁴ The latter is essential for the growth of the extremist ideology as it

12. "96 Shias Have Been Killed in Targeted Sectarian Violence in Pakistan Since the IS' Declaration," *South Asian Terrorism Portal (SATP)*, <http://www.satp.org/satporgtp/countries/pakistan/database/index.html>. Accessed on February 4, 2016.

13. Lister, n.3, p.18.

14. *Ibid.*

foments the population which the terror outfits utilise to strengthen themselves. However, the growth of the IS and the declaration of allegiance to the IS by the local groups, is not just a matter of ideological affinity. Both sides gain, to make tangible benefits by entering into such a relationship. In fact, although Baghdadi may have declared the formation of the caliphate, his organisation had to work quite a bit to obtain the *baya'a* from some of the organisations, to the point that it paid gifts in the form of weapons and cash – almost buying the oaths, as one may say. This was seen in the case of Ansar Beit al-Maqdis (ABM), now a major Libyan affiliate of the IS. The IS used the ABM's base in Libya to obtain large amounts of weapons left in Libya from the Gaddafi era. Reports suggest that the IS is selling these weapons to other smaller groups and making money out of the deals.¹⁵ However, the declaration of the formation of the caliphate is not the sole factor that worked for the IS in coopting Al Qaeda's affiliate into its own arm. It had to actively send out its envoys in the form of some of its senior leaders to reach out to the groups in Libya, Egypt and Yemen. In some ways, this is comparable to the opening the diplomatic missions.

Scholars like Michael C. Horowitz and Philip B. K. Potter have observed that the terrorist groups cooperate to increase their capacity to launch effective attacks. By studying different examples of cooperation among terrorist groups across the world, they inferred that cooperation among terrorist outfits improves the *efficiency* of the terrorist attacks. They defined this efficiency as the “number of fatalities inflicted per attack.”¹⁶ According to them, fatalities can be used as a parameter to evaluate the efficacy of terrorist groups because most terrorist organisations seek to demonstrate their capabilities through their ability to kill. This goes with a terrorist group's ideology to use

15. “Libya: A Growing Hub for Criminal Economies and Terrorist Financing in the Trans-Sahara”, The Global Initiative Against Transnational Organised Crime, *Policy Brief*, May 11, 2015, <http://www.globalinitiative.net/download/global-initiative/Libya%20Criminal%20Economies%20in%20the%20trans-Sahara%20-%20May%202015.pdf>. Accessed on February 10, 2016. Also see Girogio Cafiero and Daniel Wagner, “Four Years After Gaddafi, Libya Is a Failed State”, *Foreign Policy in Focus*, April 16, 2015, <http://fpif.org/four-years-after-gaddafi-libya-is-a-failed-state/>. Accessed on February 10, 2016.
16. 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.210.

violence as a means to its ends. Thus, terrorist groups with greater linkages are more effective because collaborations diversify risks and improve capabilities.

Cooperation among terrorist organisations allows them to pool their resources towards a common goal. But ideology alone cannot bring the groups together. Horowitz and Potter argue that, when groups seek cooperation, they try to seek out groups with higher capabilities. Thus, the demonstration of capabilities becomes essential for terrorist groups to show that they are more powerful and capable than the rest. The smaller groups have a tendency to align with more capable organisations, and make their decisions based on the demonstrations of capabilities by these groups. This results in selective collaboration with only those groups that have demonstrated their capacities. This is because groups with higher capabilities have more to offer than those with fewer capabilities.

This theory helps us understand the behaviour patterns of terrorist groups who are shifting allegiance from Al Qaeda to the IS, because these smaller groups perceive the IS to be more effective than Al Qaeda. It is not just about ideological similarities, but because these groups get to gain more out of the IS, they are willing to break alliances with Al Qaeda and join the IS. These benefits come mostly in the form of weapons and money. The IS is loaded with money obtained from its operations in Iraq and its using this to buy off the loyalties from other groups.

CONCLUSION

This ink spot strategy is a clever way to expand its reach and influence and the IS seems to have played its cards well in deciding which regions to work on and grow. However, the declaration of the *baya'a* and the formation of a *wilayat* is a two-way process. While the regional groups have to declare their oath of allegiance to the caliph, the latter must recognise this oath to form the *wilayat*. Interestingly, the IS has not (yet) accepted and made official a considerable number of *baya'a* made by groups globally, including in Malaysia, Indonesia, Gaza, Tunisia, the Philippines, and India.¹⁷ Some major Indian groups such as the Indian Mujahideen (IM) have for long desired

17. Lister, n.3, p.19.

the recognition of Al Qaeda. The IM had tried to establish linkages to Al Qaeda citing their dissatisfaction at the way the Pakistani Inter-Services Intelligence (ISI) and groups such as Lashkar-e-Tayyeba handle the smaller groups in the region, but to no major avail.¹⁸ IM member Mohammad Shafi Armar has been alleged to have links with the IS. It is speculated that he left his position in the IM to join the IS.¹⁹ Despite this, it would be hard to say why the IS has not accepted the *baya'a* from India, but most probably it is because these regions are yet to show considerable support to the violent extremist thought that the IS represents.

With the formation of the *wilayats* in the regions surrounding Iraq, the IS can avail of easy escape in the face of the heavy beating that it is experiencing currently. Iraq remains crucial to the IS strategy, and one may wonder whether the group has expanded sufficiently to survive even if it were to lose ground in Iraq. Whether the leadership has already escaped to the neighbouring regions is another question that one may look into. In conclusion, the creation of the *wilayats* is a representation of the growing support for a violent and gruesome form of terrorist ideology that the governments cannot ignore. The IS may have lost ground in Iraq but one must remember that it is still a living and breathing leviathan that needs to be fought.

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18. Neeraj Chauhan, "Indian Mujahideen Would Be Under Al Qaida: Riyaz Told Yasin", *The Times of India*, November 3, 2013, <http://timesofindia.indiatimes.com/india/Indian-Mujahideen-would-be-under-al-Qaida-Riyaztold-Yasin/articleshow/25153576.cms>. Accessed on February 6, 2016.
 19. Vijaita Singh, "Six Arrested in Pan India Scoop", *The Hindu*, January 23, 2016, <http://www.thehindu.com/news/national/niar-arrests-several-is-sympathisers/article8140960.ece>. Accessed on February 4, 2016.

MILITARY IMPLICATIONS OF CHINA'S RECLAMATION DRIVE IN SOUTH CHINA SEA

HPS SODHI

BACKGROUND

Reclaiming land from the sea is a common activity around the world. Almost all coastal states and major cities around the world have been engaged in such expansion activities for infrastructure development in the past. China has been engaged in land reclamation activities in the South China Sea for the last few years. But since September 2013, it has embarked on a drive to undertake major reclamation and construction on several reefs and rocks in the South China Sea. China's land reclamation efforts in the region are concentrated in the Spratly Islands group, which is located in the world's most heavily trafficked Sea Lines of Communications (SLOCs).

Reclamation activities of such nature certainly have military/operational, diplomatic, and legal implications. As per the United Nations Convention of the Laws of the Seas (UNCLOS), there is no sanctity for such claims of ownership in the international waters. Notwithstanding that, as a first step, China wants to establish a 12 nm (nautical mile) zone of territorial waters surrounding these

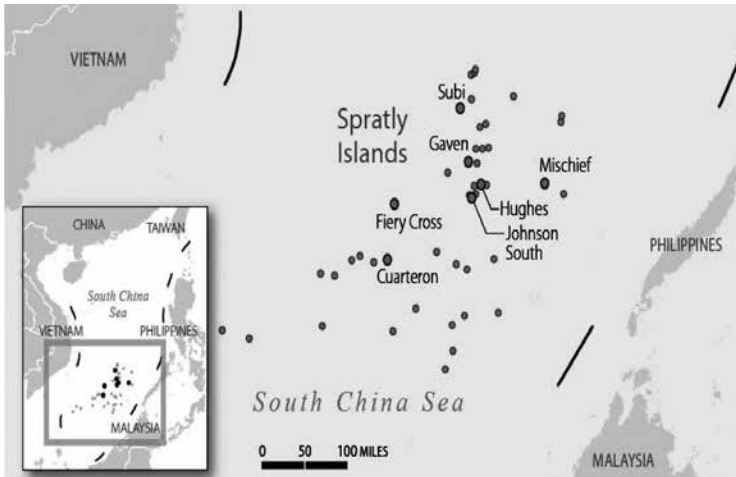
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rock features. In the next move, a claim for an Exclusive Economic Zone (EEZ) of 200 nm may be projected, which can give China the ownership of the entire sea wealth and seabed resources in this part of the South China Sea.

RECLAMATION ACTIVITIES IN THE SOUTH CHINA SEA

Over 2,000 acres (809 hectares) of artificial land has been created on these Chinese-occupied reefs/ rocks that fall under disputed territories between China and neighbouring states.¹ The major areas under reclamation include a number of reefs which are: Mischief Reef, Fiery Cross Reef, Cuarteron Reef, Gaven Reef, Hughes Reef, Johnson South Reef, and Subi Reef (Fig 1). All these reefs fall under disputed territory between China and its neighbouring states, including Malaysia, the Philippines, Vietnam and Taiwan. Among these, Hughes Reef, Johnson South Reef and Mischief Reef fall within the Exclusive Economic Zone (EEZ) of the Philippines. China's Foreign Ministry announced on June 16, 2015, that China would complete its reclamation work "in the upcoming days" and then turn its attention to building facilities on the newly created artificial islands.²

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1. Ben Dolvan et al, "Chinese Land Reclamation in the South China Sea: Implications and Policy Options," *Congressional Research Service*, June 18, 2015, <https://fas.org/sgp/crs/row/R44072.pdf>. Accessed on December 12, 2015.
 2. "Foreign Ministry Spokesman Lu Kang's Remarks on Issues Relating to China's Construction Activities on the Nansha Islands and Reefs", Ministry of Foreign Affairs of the People's Republic of China, June 16, 2015, http://www.fmprc.gov.cn/mfa_eng/xwfw_665399/s2510_665401/2535_665405/t1273370.shtml. Accessed on December 22, 2015.

Fig 1: Islands Under Reclamation in South China Sea

Source: Chinese Land Reclamation in the South China Sea: Implications and Policy Options, 18 June 2015, <https://fas.org/sgp/crs/row/R44072.pdf>, accessed on January 31, 2016.

Under UNCLOS, the reclamation does not allow China to claim the normal 200 nm EEZs around these islands. The most that a nation could claim around any of the features is territorial waters of 12 nm, and this is only claimable if, before reclamation began, the reef included features above water at all times.³ It is well known that prior to reclamation, none of these features could qualify to be called a natural island that could support human habitation, a mandatory requirement under the UNCLOS for making such claims. But, due to the complex nature of the tidal conditions in the area under consideration, it may be difficult to establish the status of these rocks/ islands, whether they remained above water at high tide prior to reclamation, a precondition for the claim of sovereignty. Clearly, China wants to take advantage of this situation and assert claims of ownership.

However, if one looks at the picture in its entirety, within the Spratlys, not only China but all the claimants except Brunei have undertaken reclamation activity. Vietnam holds control of 29 islands and has positioned more than 2,000 troops to protect their maritime interests. The Vietnamese have constructed a harbour, missile bases,

3. Dolvan et al, n. 1.

barracks and lighthouses. Among the other neighbouring states, the Philippines has occupied eight features, Malaysia five, and Taiwan has taken control of one island.⁴ In this context, China feels that other countries have illegally invaded and occupied its islands.

Satellite imagery released in April 2015 by CSIS' Asia Maritime Transparency Initiative indicated that Vietnam has recently embarked on reclamation on two of the Spratly Islands that it occupies Sand Cay and West Reef.⁵ As far as seabed resources are concerned, China has started hydrological surveys prior to drilling operations but so far, has not drilled any oil well in this region; however, other countries of the region have drilled 1,380 oil wells in the South China Sea, with annual production of about 423 million barrels.⁶

MILITARY / OPERATIONAL IMPLICATIONS

The Chinese reclamation activity in the past two years or so has left the entire world feeling concerned. One of the views is that establishment of military capabilities on these small islands/ features by China will have very limited utility against the US forces. On the other hand, it can offer adequate tactical advantage for the People's Liberation Army (PLA) forces over its neighbours in the South China Sea. On May 30, 2015, US Secretary of Defence Ashley Carter said, "... with its actions in the South China Sea, China is out of step with both the international rules and norms that underscore the Asia-Pacific's security architecture, and the regional consensus that favours diplomacy and opposes coercion."⁷

It is essential to carefully analyse the potential military threat that these facilities can create, and the implications of these developments. The Chinese have always declared that these new islands/ features

4. "Position Paper of the Government of the People's Republic of China on the Matter of Jurisdiction in the South China Sea Arbitration Initiated by the Republic of the Philippines," Permanent Mission of the People's Republic of China to the United Nations Office, December 7, 2014, <http://www.fmprc.gov.cn/ce/cegv/eng/zywjyjh/t1217446.htm>. Accessed on December 18, 2015.

5. "Sandcastles of Their Own: Vietnamese Expansion in the Spratly Islands", *Asia Maritime Transparency Initiative*, <http://amti.csis.org/vietnam-island-building>. Accessed on December 19, 2015.

6. Dolvan et al, n. 1.

7. Ashley Carter, "IISS Shangri-la Dialogue: A Regional Security Architecture Where Everyone Rises," US Department of Defense, May 30, 2015, <http://www.defense.gov/Speeches/Speech.aspx?SpeechID=1945>. Accessed on December 10, 2015.

are being developed for civilian purposes. The official position in this regard states that the purpose of these islands is to provide public service, humanitarian assistance and disaster relief missions.⁸ In fact, during a press conference with US President Barack Obama, Chinese President Xi said that China would never militarise the South China Sea. Notwithstanding these statements, it is obvious that the option of militarisation of these islands will always be open to the Chinese leadership. Adm Harry Harris, commander of the US Pacific Command, is of the opinion that these facilities are clearly military in nature, because these maritime territories can be used to interfere with freedom of navigation or overflight for the countries in the neighbourhood or for that matter any country whose trade passes through the region.

FREEDOM OF NAVIGATION OPERATIONS (FONOP)

As per UNCLOS, any ship, civil or military, has the legal right to navigate in these disputed waters without giving any notice or taking approval from the Chinese authorities, or for that matter, any other state laying claim to these features. Keeping the laws in mind, the US has embarked on FONOP in the South China Sea.

On October 27, 2015, the USS *Lassen*, an Arleigh Burke class missile destroyer equipped with the Aegis defence system and Tomahawk missiles, sailed within 12 nm of the Chinese occupied Subi Reef, to demonstrate the much publicised FONOP in the Spratly Islands. The FONOP is an integral part of US policy since 1983 to assert its navigation and overflight rights on a worldwide basis in a manner that is consistent with the balance of interests reflected in the Laws of the Sea Convention.⁹ In the past, US armed forces have conducted such operations in the Gulf of Sidra, Strait of Hormuz, Malacca Strait and in the Black Sea. The declaration made in respect of the ongoing South China Sea disputes that the “US will fly, sail and operate anywhere in the world that international law allows”

8. Ankit Panda, “Military Facilities Aren’t Militarization in the South China Sea: Chinese Deputy Foreign Minister”, *The Diplomat*, November 23, 2015, <http://thediplomat.com/2015/11/military-facilities-arent-militarization-in-the-south-china-sea-chinese-deputy-foreign-minister/>. Accessed on December 12, 2015.

9. “Maritime Security and Navigation”, US Department of State, <http://www.state.gov/e/oes/ocns/opa/maritimesecurity/>. Accessed on November 16, 2015.

is also an assertive step in this direction. With this agenda in mind, the US government decided to send the USS *Lassen* deep into the waters surrounding China's artificial islands and reefs turned into military infrastructures. China, of course, accused the US of making an illegal maritime intrusion into the waters, thereby threatening its sovereignty.

Subi Reef was chosen for this operation, firstly because it is a Low Tide Elevation (LTE) which remains submerged during high tides and, more importantly, it is one of the features in the Spratly group that China has converted into a man-made island with dual use infrastructure, including a possible 3,000 metre (m) airstrip and a helipad.¹⁰ Being an LTE, China is not entitled to a territorial sea around Subi Reef. The US objective was to give a clear signal to China that US ships have freedom to operate in waters around these low tide elevations.

More recently, on January 30, 2016, another US guided missile destroyer, the USS *Curtis Wilbur* sailed within 12 nm of Triton Island, also called Zhongjian Dao by the Chinese, in the Paracel group of islands in the South China Sea. This was also part of the ongoing FONOP by the US aimed to challenge China's efforts to restrict freedom of navigation. Apart from China, Vietnam and Taiwan are also claiming ownership of this island. China's Defence Ministry called the American action "intentionally provocative" and "irresponsible and extremely dangerous."¹¹

Meanwhile, in order to curb such operations in the disputed areas, China has already initiated a movement, with 192 UN member states, demanding some changes in the interpretation of the Maritime Zones Act (MZA) of UNCLOS, which may result in restricting foreign military ships' and aircraft's access to China's EEZ and air space. If such an amendment is put in place, China will be able to keep all extra-regional forces away from the South China Sea. And if the same rule is followed across the globe, at least 38 percent of the world's seas

10. Ankit Panda, "Setting the Record Straight on US Freedom of Navigation Operations in the South China Sea", *The Diplomat*, November 11, 2015, <http://thediplomat.com/2015/11/setting-the-record-straight-on-us-freedom-of-navigation-operations-in-the-south-china-sea/>. Accessed on December 21, 2015.

11. "China Tells US To Follow Rules As Warship Sails Past Disputed Island", *Asia Times*, January 30, 2016, <http://atimes.com/2016/01/us-warship-sails-near-island-claimed-by-china/>. Accessed on January 30, 2016.

that fall under the jurisdiction of EEZ will be out of bounds for the rest of world's armed forces, not only curbing freedom of navigation but also leaving busy and important energy routes without any protection.

MILITARY POTENTIAL OF RECLAIMED ISLANDS

There is no doubt that the military value of the reclamation activity in these islands assumes more importance due to their location in the South China Sea, far away from China's mainland. In general, it could improve China's ability to operate warships and military aircraft at extended ranges during any contingency, by providing staging facilities. Till now, following the old concept of maritime strategy limited to coastal defence, PLA Navy units used to operate close to the east coast of China and did not venture out far due to logistics and operational constraints. Availability of forward operating naval bases in the Spratly Islands will allow the PLA Navy (PLAN) to establish fuelling, logistics and maintenance facilities resulting in increased time on task and avoiding a return to the mainland for turn-arounds.

Various options available to the Chinese authorities range from using these islands for establishing Intelligence, Surveillance and Reconnaissance (ISR) stations, to forward operating bases for their ships and aircraft. These islands could also be used as launch pads for coercion by China. The coercion plans may include blockades around land features occupied by another state, seizure of an otherwise unoccupied islet, or using these occupied features to enforce Air Defence Identification Zones (ADIZs).

In view of the size of these reclaimed islands, China cannot station big garrisons of military troops with significant power projection capabilities. However, establishment of even limited military support facilities in this region can provide a workable solution to the logistical challenges of sustaining the operations of PLAN ships, far from China's mainland. The next logical step will be stationing of a few small ships on these islands on a rotational basis, as is being done by the US Navy in the Persian Gulf and Singapore. In fact, PLAN operations aimed at providing energy security along the SLOCs can also get the necessary support from these facilities. Looking into the possibility of China entering into a conflict situation

with its neighbours over the possession of disputed features in the South China Sea, a flotilla of landing ships based on these islands can be promptly despatched to launch an amphibious operation. With the use of helicopters and amphibious craft, and support from Chinese mobile artillery stationed on the outposts, such facilities could be used for conducting assaults on nearby islands held by rival claimants.¹²

Based on satellite imagery inputs, it has been ascertained that the military facilities established on various islands in the South China Sea include barracks for troops, anti-aircraft gun systems, artillery, communication equipment, early warning radars, helipads and/or runways, fuel dumps and jetties. In addition to the 3,000 m runway, the facility that China is building at Fiery Cross Reef may include a harbour large enough to berth surface combatants (Fig 2).¹³

Fig 2: Airstrip and Other Facilities at Fiery Cross Reef



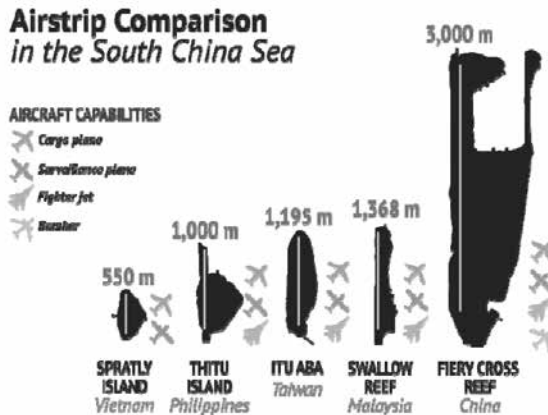
Source: "Air Power in South China Sea", *Asia Maritime Transparency Initiative*, <http://www.amti.csis.org/airstrips-scs/>. Accessed on February 2, 2016.

In order to maintain total surveillance of the South China Sea area, China may equip these islands with air and surface search radars

12. James Hardy and Sean O'Connor, "China Advances with Johnson South Reef Construction," *IHS Jane's Defence Weekly*, September 19, 2014.
13. James Hardy and Sean O'Connor, "China Building Airstrip-Capable Island on Fiery Cross Reef," *IHS Jane's Defence Weekly*, November 20, 2014.

and Electronic Support Measures (ESM) equipment, which would improve China's Maritime Domain Awareness (MDA) and its ISR capabilities in the area. With the availability of an airfield, China might also operate Unmanned Aerial Vehicles' (UAVs), Maritime Patrol Aircraft (MPAs) and/or AWACS (Airborne Warning and Control System) aircraft. Such aircraft will further provide MDA and ISR coverage over surrounding waters and air space up to the second island chain. With this air effort, the Chinese maritime operations will have near-continuous air coverage throughout the area of interest."¹⁴ This data will also be a prerequisite for China to establish an air defence umbrella in the South China Sea.

Fig 3: Airstrips in South China Sea



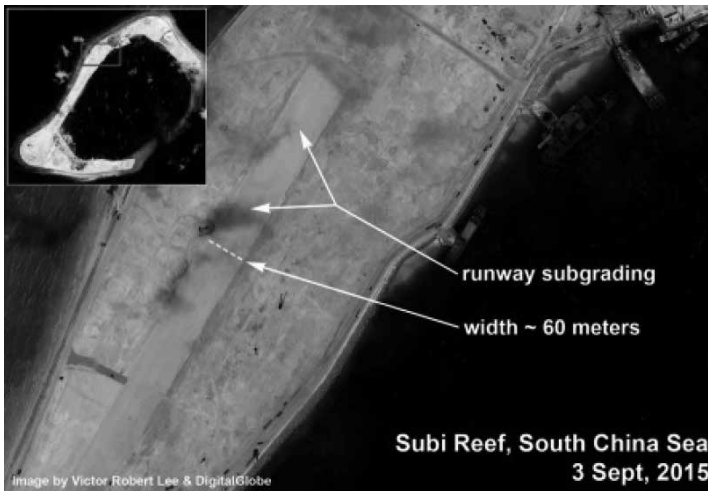
Source: "Air Power in South China Sea," *Asia Maritime Transparency Initiative*, <http://amti.csis.org/airstrips-scs/>, accessed on February 2, 2016.

As far as air activities are concerned, almost all countries have gone ahead and established their footholds in these islands. Even before China's recent reported construction of an airstrip on the Fiery Cross Reef, four other claimants had already built airfields to operate fighter aircraft from features they control in the Spratly Islands. Those

14. Ian Sundstrom, "Another Unsinkable Aircraft Carrier," Centre for International Maritime Security blog, January 16, 2015, <http://cimsec.org/another-unsinkable-aircraft-carrier/14349>. Accessed on January 16, 2016.

airfields are on Itu Aba Island, occupied by Taiwan, Spratly Island, occupied by Vietnam, Thitu Island, occupied by the Philippines, and Swallow Reef, occupied by Malaysia (Fig 3).¹⁵ It can also be stated with certainty that China is actively progressing reclamation in and around Mischief and Subi Reefs to construct additional airstrips in these islands. Satellite imagery of Subi Reef in the Spratly Islands clearly shows construction of a runway as wide as about 60 m and length extending 2,200 m (Fig 4).

**Fig 4: Under Construction Airstrip at Subi Reef
as on September 3, 2015**



Source: Victor Robert Lee, "South China Sea: Satellite Imagery Makes Clear China's Runway Work at Subi Reefs", <http://thediplomat.com/2015/10/south-china-sea-update-freedom-of-navigation-operations-and-international-law/>. Accessed on September 10, 2015.

Another military implication making a strong impact relates to augmentation of China's Anti-Access/Area Denial (A2/AD) systems. China could use these reclaimed islands for installation of Surface-to-Air Missiles (SAMs), Anti-Ship Cruise Missiles (ASCMs) and Anti-Submarine Warfare (ASW) aircraft to extend China's A2/AD network further into the South China Sea. In addition, some medium/small PLAN ships (such as the Type 022 missile-armed attack craft or Type

15. Xi Zhigang, "Is China's Forward-Based Airport in the South China Sea Set for Fiery Cross Reef?", *China Newsweek*, October 16, 2014, <http://news.inewsweek.cn/detail-1029-1.html>. Accessed on January 16, 2016.

056 Corvettes) might be stationed at one or more of the sites, perhaps on a rotational basis.¹⁶ Iran has made similar deployments on islands it controls near the Strait of Hormuz.¹⁷ Availability of the 3,000 m runway on Fiery Cross Reef and similar airstrips on other islands/reefs will be well suited for operational turnaround of aircraft taking off from the mainland and Hainan Island, thereby extending China's Remotely Operated Aircraft (ROA) to the far corners of the South China Sea.

AIR DEFENCE NETWORKS

An important aspect of China's reclamation drive is to strengthen its air defence network. Establishment of an ADIZ in the major portion of the South China Sea will be a big step in this direction. Islands/sites located at appropriate distances from the mainland could be equipped with necessary radar and Electronic Warfare (EW) sensors to provide an Air Defence (AD) network capable of providing early warning of the incoming strikes/air threat well beyond the 'first island chain'. Interceptors positioned at the Fiery Cross, Subi and Mischief Reefs airfields could be tasked to handle the intruding aircraft. These forward air bases will provide a big push to the existing AD network of the PLA forces.

It is pertinent to mention that China unilaterally established an ADIZ over two-thirds of the East China Sea in November 2013, without any consultations with neighbours.¹⁸ Obviously, this has resulted in huge overlaps with other countries' ADIZs. Even the disputed Senkaku Islands and joint training air spaces of the US and the Japan Air Self-Defence Force fall within this zone. Although China claims it to be a self-defence right, it has become a matter of concern for the neighbours. Further, the reality on the ground is that the PLA Air Force (PLAAF) lacks the capability to monitor the entire area under the declared ADIZ, specifically in terms of land-based

16. Ronald O'Rourke, "China Naval Modernization: Implications for US Navy Capabilities", *CRS Report* RL33153, December 21, 2015, <https://www.fas.org/sgp/crs/row/RL33153.pdf>. Accessed on January 21, 2016.

17. Kenneth Katzman et al, "Iran's Threat to the Strait of Hormuz", *CRS Report* R42335, <https://www.fas.org/sgp/crs/mideast/R42335.pdf>. Accessed on January 23, 2016.

18. Jun Osawa, "China's ADIZ: A Great Wall in the Sky", *Brookings*, December 17, 2013, <http://www.brookings.edu/research/opinions/2013/12/17-china-air-defense-identification-zone-osawa>. Accessed on January 25, 2016.

radar coverage, aerial refuelling and air early warning and control platforms.¹⁹ The US had opposed declaration of this ADIZ and even flew its military aircraft across the zone. Although, establishment of ADIZs, in any part of the world does not have any legal sanctity, the declaration of an ADIZ in the South China Sea will not only impede freedom of navigation but will also escalate tensions in the area.

China knows that the US military power rests heavily on its air power. To take care of this aspect, the PLA has allocated a major portion of its defence layout to developing a credible AD network to defend against US naval and land-based air power. The formidable S-300 SAM system (with ranges up to 200 km) is the foundation of the Chinese AD network. If China is able to place some of these batteries on the occupied islands/ features, it will be a big addition to its existing area denial capability. Furthermore, China is expected to acquire S-400 SAM systems by 2016 that will extend the Chinese air defence coverage up to 400 km.²⁰

CONCLUSION

Although, Chinese sources still insist that the reclamation activity is meant for non-military purposes, including humanitarian assistance, disaster relief, fishermen's safety and scientific research, there is no doubt that these activities are inconsistent with the 2002 Declaration on the Conduct of Parties in the South China Sea (DOC). The Chinese leadership must be well aware of the fact that historical claims do not have any sanctity under the UNCLOS but have still decided to continue militarisation of these islands. It is evident that their sovereignty claims are primarily aimed at getting a major portion of the South China Sea under their maritime and air defence umbrella, by positioning PLAN and PLAAF units, with the required sensors and equipment, on these islands. Exploitation of the seabed resources in the extended territorial waters and EEZ may be the second priority.

The militarisation of these islands will provide the PLA an opportunity to extend its defensive perimeter further outward. Availability of airstrips at Fiery Cross Reef and other islands, far

19. Ibid.

20. James C O'Halloran and Chirstopher F Foss, "Anti-Access/ Area Denial: The Evolution of Modern Warfare", *Jane's Land Based Air Defence*, <https://www.usnwc.edu/Lucent/OpenPdf.aspx?id=95>. Accessed on August 3, 2105.

away from the mainland, will allow operational deployment of the PLAN's J-11 (Su-27) fighter and other aircraft to keep intruders away. Further, the day is not far when the Chinese authorities may establish an ADIZ in the South China Sea, as they have done in the East China Sea, as part of the A2/AD strategy. The military implications of establishing these forward operating bases/outposts at about 500 nm from the mainland, and the ADIZs will certainly escalate the volatile situation in the South China Sea, in the near future.

The US, on the other hand, has always made it clear that it takes no position on the sovereignty dispute, but certainly objects to China's reclamation drive aimed at curbing freedom of navigation/overflight in the South China Sea. On the FONOP strategy front, the careful approach adopted by the US government in choosing Subi Reef and Triton Island has resulted in a muted response from the Chinese leadership. With these two operations, the US Navy has tested the waters and it is understood that it plans to make at least two trips per quarter to the South China Sea to keep the issue of freedom of navigation alive.

With its new military strategy of active defence and renewed interest in maritime affairs, it is clear that China will spare no effort in establishing military/ naval facilities in these islands to support its maritime ambitions. China's recent decision to establish its first overseas military outpost at Djibouti has confirmed its new strategy to extend its area of operations beyond the first island chain.

CHINA IN THE INTERNATIONAL SYSTEM: WHAT LIES AHEAD FOR EAST ASIA?

SWATI ARUN

China claims that its concerns for maritime security and the attendant need for naval build-up emerge from its growing energy requirements – apart from Taiwan and the territorial disputes with neighbouring countries. There are also other realities that come to light when one looks at the current foreign policy behaviour of China: using economic leverages to settle disputes; economic initiatives to resolve tensions; promoting goodwill through “One Belt One Road”; its unilateral occupation of disputed islands; “active defense” on the high seas; area denial to the US and other maritime neighbours; and construction of artificial islands. While no substantial research has been conducted in the disputed South China Sea maritime zones to validate the presence of a high amount of natural resources, it is ostensible. It has been an assumption on the basis of explorations done within the Exclusive Economic Zones (EEZs) of coastal nations. Also, China is the largest global energy consumer, currently importing from Saudi Arabia, Angola, and Iran. China’s relationship with these countries is of a strictly ‘professional’ and ‘non-interfering’ nature.

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In other words, China is using the means of financial assistance and no-strings attached diplomacy with the nations it actually relies on for energy. Hence, the implied logic given for the aggressive naval actions in the high seas – to secure the resources – and the naval build-up do not add up.

China has not signed agreements for dual explorations of the natural resources in the South China Sea region since 2010. Instead, it claims complete ownership of the South China Sea's rocks, shoals, reefs and islets. The sea (in parts or whole) is also claimed by the neighbouring nations of Malaysia, Vietnam, Brunei, Philippines and Taiwan. On May 12, 2014, China placed its drilling platform, Ocean Oil 981, near the Paracel Islands. This action was criticised by Vietnam as the move was violating Vietnam's EEZ, but China argued that it was legal, because the area falls within the surrounding waters of the Paracel Islands, which China controls militarily. The exclusive territorial claims also overlap the EEZs of other nations – Brunei, Indonesia, Malaysia, the Philippines, Singapore, Taiwan, and Vietnam.

China has applied a similar foreign policy to deal with the East China Sea dispute. The Senkaku Islands are claimed by China but are militarily controlled by Japan. The news of aggressive naval activities started in 2012 when China began using improperly drawn straight baseline claims around the Senkaku Islands.

The two disputes simultaneously paint a very aggressive picture of China. The incidents from 2009 to the present are increasing in number and magnitude. The response China has received from the neighbourhood and the US is telling of the intentions they perceive. One might conclude that the string of policies directed towards expanding China's territorial boundaries does not necessarily manifest due to resource scarcity and management, instead it comprises traditional expansion. Thus, it becomes significant to analyse the intentions of China which seem further away from the theory of peaceful development.

The naval ambition, and the change in the Chinese outlook can be measured from the current White Paper, *China's Military Strategy 2015*:

The PLA Navy (PLAN) will gradually shift its focus from “offshore waters defense” to the combination of “offshore waters defense” with “open seas protection,” and build a combined, multi-functional and efficient marine combat force structure.¹

After an examination of several statements made by China in the past five years, it is not clear whether it is trying to emerge as a responsible, peaceful, great power or a dissatisfied, belligerent power. Can China be undertaking a tactic to ‘terrorise’ the neighbours into surrendering to its demands? Or is it that China is testing the alliances and security partnerships in the region that countries share with the US?

China’s provocation on both fronts (East China Sea and South China Sea) has a common stakeholder—the US—which is involved in the region as an ally, a partner, an investor, and a security provider. The US has found itself in shallow waters with the two-front war: tackling the Islamic State in Syria (ISIS) and sustaining the anti-Assad rebels in Syria. It is losing the Ukraine crisis to Russia and its “credibility” as a superpower/security provider. And the growing fear is that while the US economy is declining, China continues to maintain its growth rate through a state driven economic system, and thereby puts pressure on the US to take visible measures of containing China. To understand the intentions of any nation, we must set the assumptions for clarity. China operates in an anarchic order, and being an authoritarian nation, it has a powerful grip on the economy, hence, the resources at its disposal, to use as required. It does not require the consent of the public to craft a foreign policy, can operate in a non-transparent system without checks and balances, and can channel nationalism as desired.

CHINESE ‘INTENTIONS’ IN EAST ASIA

Observers like Bernard Cole have rejected the idea of China’s naval rise or China attaining naval hegemony like other maritime powers. However, in 2007, the capability was termed to be hegemonic in

1. “China’s Military Strategy”, The State Council Information Office of the People’s Republic of China, *China Daily*, May 2015, http://www.chinadaily.com.cn/china/2015-05/26/content_20820628.htm. Accessed on June 27, 2015.

nature. It was also predicted that by 2016-17, China would have hegemonic leverage in maritime East Asia.²

China puts forth the reasons for its naval build-up – while it does not really need to do so – saying that any nation in the position China is in today, would diversify its resources in areas it is lacking. But it is the intentions that make the difference. It is China’s intentions, or how they are perceived by others, that has escalated the dispute and led the region to be the most dangerously armed. However, nations cannot predict the intentions of a powerful neighbour and do not rely on such predictions. But if one country unilaterally raises the risk of conflict in a region, it becomes the pivot of tension, and one to disrupt peace and increase instability. Besides the fact that there are historical reasons for the territorial disputes, China’s naval activities in the disputed waters; occupation of EEZs of other nations; its naval build-up; its assertion through economic punishment, etc. would lead one to conclude that access to natural resources may not be the sole reason for China’s behaviour.

Realistically, China has legitimate national security and sovereignty concerns which require sea power. With its economic interests lying on the eastern coast, the interplay becomes obvious. But this still does not justify its antagonistic behaviour. China’s claim of the entire South China Sea makes it impossible for the other nations to accommodate its demands, and citing historical facts makes China’s case feeble. In the East China Sea, China announced an Air Defence Identification Zone (ADIZ) which overlaps half of Japan’s air space and a small extent of the Republic of Korea’s and Taiwan’s ADIZ. This controversial move escalated tensions in the region. In another episode, China included the South China Sea in its “core interests”, announcing it to be at par with Taiwan and Tibet. China used the “One China Policy” to differentiate between friends and foes. Yet again, recognition of the South China Sea as an inalienable and indisputable national interest might be utilised as a quality checker for “true friends”.

2. Toshi Yoshihara, “Strategy and Policy Lecture- Rise of Chinese Sea Power”, *YouTube*, Posted by Naval War College on February 28, 2013, <https://www.youtube.com/watch?v=7P4sOH5JBXE>. Accessed on September 27, 2015.

According to Chinese Adm Wu Shengli, China has three reasons to pursue sea power:³

- Invasions from the Sea–Japan–Century of Humiliation.
- China an island country (or oceanic).
- The decision taken by the Party and people.

China has held notions of sea power prior to the 2010 projections. Adm Liu Huaqing, founder of modern China's Navy, had conceptualised the waters surrounding China into "near seas" and "mid-far seas". The former included the Yellow Sea, East China Sea, South China Sea, Spratly Archipelago and the waters within and beyond, Taiwan, Okinawa Islands chain as well as the Northern Sea area of the Pacific. The area beyond "near seas" was called "mid-far seas".

Having established that expansion of sea power is directly related to gaining power in the region, it is only but a prerequisite to emerge as a legitimate great power which controls and influences the behaviour of the neighbours. Now, China being a regional sea power, has several advantages over the US, its primary rival. Julian Corbett has written, in the *Principles of Maritime Strategy*, that a local sea power is superior in local waters as it can lay traps and surprise attacks. These strategists as well as Mao have opined that defence has to be on the expectation of going back to offence. In other words, defending to finally move on to offence and without the pre-planning of moving to offence, defence is useless. Furthermore, in China's naval doctrine, active defence equates to offshore defence. According to the Chinese Navy:

[offshore defense involves] the combined use of all kinds of methods to exercise overall effects of maritime power to preserve oneself to maximize extent while unceasingly exhausting and annihilating the attacking enemy. It requires a sufficient grasp of mobile combat capabilities to search and destroy the enemy, gradually shift the power balance, change the strategic situation, and thereby appropriately time the transition to strategic counter offensive and attack.⁴

3. Ibid.

4. Ibid.

When compared with other strategies used by China, the doctrine reveals strategic depth in the actions. Mao's understanding of interior and exterior lines reflects the strategy of 'luring the enemy'. Once the enemy is deep inside, to attack with full force and numbers would revert the result in the local power's favour, no matter how weak the technologically. The balance of power will shift with the continued defence, leading to counter-offensive.

When applied in the maritime domain, the first island chain can be understood as an interior line. This might be disadvantageous for the US and allies. As the US moves closer to the first island chain, the concentration of weaponry would naturally increase. China is acquiring anti-access / area denial capabilities. It is investing in long range ballistic missiles, and anti-ship cruise missiles for stealth attacks. Hence, if China is banking on luring in the enemy – pretending to be defeated to let the enemy enter the zone – in that case, China has the strategic depth. But the opposition might not need to enter the Chinese boundary, due to the advancements in technology, and the absence of an objective to 'claim victory over Chinese territory'. However, asymmetric warfare depends on how much one can spare to spend on military advancement over economic welfare.

According to the Pentagon's analysis, China is actively modernising its military to primarily defeat the US. The multi-layered offensive capability for reaching the second island chain, the anti-ship ballistic missile designed to target US aircraft carriers reflects the intention to force the US out of East Asia, or for the US to recognise China's position as the regional hegemon, and respect the hierarchy.

CHINA'S STRATEGIC OBJECTIVES

In order to understand what China wants, a historical analysis is important. A shift was seen in China's posture post the 1996 Taiwan crisis and the Gulf War. The former suggested a weak China, vulnerable to American hegemony. The latter exposed how much of a military dwarf China was compared to the Western alliance system. Today, China has the capability and the leverage of economic dependence in its favour. One of China's objectives would be to increase the risks and costs of a conflict with it for the neighbours. China is capitalising on the delay and uncertainty in the region regarding its actions

through promoting multi-national economic partnerships. The more the US waits, the greater the risk and the costs. China would want to win without fighting through the ambiguity involved in risk analysis and understanding the capabilities of China or its intentions.

China has set a trap for its neighbours and the world through its economic initiatives to decide whether they want to grow and prosper or engage in an armed conflict. Delay in a conflict, as theorised, leads to a higher magnitude of 'war'. In this case, however, with exhaustion of US resources on defence in Asia, the public might demand out of Asia-Pacific in return for better economic growth.

UNDERSTANDING CHINA'S ASSERTIVE POSTURING

The answer to this question is not in the culture or uniqueness of China, but in the rules which guide the evolution of a state in the international system. It is no surprise that China has assumed the historical behaviour of any rising nation, where, with growth, national interests expand, national security threats become greater, and a crucial need to gain a stable sphere of influence is realised. 'National interests' has maximum survival as a baseline, but 'maximum' changes according to the position a nation has in the international system. For the US, its national interest relies on having a favourable world order where it remains a superpower. For China, moulding a world order in its favour is too risky and ambitious, but to have a weaker neighbourhood, void of an external power's support, is achievable. It is common knowledge that China is relying on its hard power to gain an objective reality – maximum security – which is not possible without attaining 'minimum regional threat'.

However, the question of why China uses assertion over diplomacy, economic punishment over economic integration, regardless of political motives, remains. Perhaps, China assumes military action to be the sole road through which it can achieve 'regional hegemony' or dominance over the sea. It is clear that at this stage of its growth, China has realised the power of a blue water navy, and that power depends on successful projection by self, and perception by the others. China has seemingly calculated the right time for projection to be 'now', when the region's economic dependency on China has grown irrevocably strong, and intentions

remain uncertain. However, China's challenge to the US in President Xi Jinping's speech "Asia for Asians" did not resonate with the feelings of the other Asian powers, and the US-led regional order prevailed.

Any attempt by China to dilute its naval presence in the Sea of Japan area would symbolise a diplomatic victory for the US-Japan coalition. This might have severe repercussions in other areas of Chinese interests as smaller maritime neighbours like Vietnam, Philippines etc. assert their control in other disputed maritime boundaries. An attempt to demonstrate 'benignness' by China runs a risk of being construed as a 'weakness' which might jeopardise Chinese core interests and erode its esteem in the eyes of its neighbours.

But if China continues with provocative and assertive policies, it might still delay conflict, reducing the success of deterrence. As is often said, containment would not work with China, like it did with Russia, because the US-Russia played a zero-sum game. China, due to its economic and geographical attributes, is hard to deter, but it is not impossible. But the delay in a united effort by the US and allies (partners) against China will only make it more difficult. The element that sets this case apart is the presence of a superpower – unchallenged and omnipresent. Now that we have a superpower, also a stakeholder in East Asia and Southeast Asia—the US—it also becomes the policeman for its allies, and a potential enemy for a rising power. The US-created nexus of alliances and protectorates all around the world has not let any single power attain a sphere of influence, thereby eliminating challenges. But since China is not an ally, it demands to be an equal power vis-a-vis the US (while it still would want to be the only regional power). Balancing emanates from dissatisfaction among countries towards a stronger power. China is a power dissatisfied with the US, while the neighbours are more afraid of a rising China, resulting in a coalition against China under the US.

What China has miscalculated is that it is not easy to harass or force the US out of Asia. One, the US has allies to protect; and two, it has stakes in the regional security to maximise its own. The US is not geographically present in the region but has military bases, and China is a local power, exposed to the alliance. Moreover, the military

modernisation taking place in the region has clarified the intentions the neighbours have for China. Why does China not see this? Is it only a miscalculation or self-assured calculation with a safety guarantee from outside? The region started militarising precisely after 2010 when China escalated assertion over the waters near the Philippines. The concern of the neighbours that the US might not be 'committed' to protect them, led them into military modernisation. The move was applauded by the US as the region stood up for itself. But, gradually, the US again got involved with the several multilateral and bilateral defence programmes conducted in the region. The importance of the region for the US can be understood from its views of China as a future challenger which can successfully change the order, not the Islamic State in Syria (ISIS), Russia or Afghanistan. In East Asia, no party can afford a conflict or wants one. But in this game of a test of the nerves, if the smaller nations give up, in return for better economic returns, China wins and the US loses legitimacy (and hegemony). China has initiated new efforts to allow economic growth through the Asian and European nations. These initiatives could have resulted in appealing to the favourable side of China. But the way countries have tapped into the Chinese resources to keep their own growth rates high while building naval capabilities all around the South and East China Seas, only portends the challenges that lie ahead for China.

In the present scenario, wherein China, unilaterally, is building an artificial island and yet stands unchallenged, it is surprising that the neighbours are continuing to participate in the economic initiatives by China. Why have they continued with the deep economic engagement with China such as in the Asian Infrastructure Investment Bank and the One Belt One Road Initiative? Has realism been unable to explain how nations work?

A country's will to promote economic advantages over national security is often highlighted as a catalyst to a permanent change, where nations will move away from primordial enmity over boundaries and sovereignty. The lack of armed conflicts between nations in the past decades removed concepts like 'balance of power' from the centre-stage.⁵ But the reality is that it is hard to analyse the

5. Ann Hironaka, *Never-Ending Wars: The International Community, Weak States, and the Perpetuation of Civil War* (Cambridge: Harvard University Press, 2008).

future behaviour of a rising power, or assess it on the basis of history or past pattern. It is in the nature of a nation to promote economic growth to further military advancements.

China took time to reinstate its deteriorated economy of the past, and smoothly ventured into the club of great powers without indulging in an armed conflict. But as it grew in capabilities, its interests and ambitions in the region around it, soared as well. Today, it has moved away from the platform of 'peaceful talks,' and engages in the discussions, calling its interests "indisputable"⁶. If it could afford it, it would defend its actions by calling them national priority and economic necessity, and could get away with it due to the severe dependence of the countries on its economy. This is a pattern of behaviour seen in revisionist powers. China is driven by structural-offensive realism, following its self-interests, which might include achieving dominance in its backyard, rendering it not peaceful for observers.

CONCLUSION

The rise of China has serious implications for the US. For the US, to maximise its survival and position as a superpower, it cannot allow any nation to become a pole or regional hegemon. It is for the US to realise whether it can live with partial command of the global commons. The longstanding alliances would not be helpful in an environment bereft of a concrete long-term strategy. Of late, it is being seen that US foreign policy is becoming increasingly short-sighted. The regional balance of power which was once in the US' favour is on shaky grounds, because the value of a power is only as good as it is perceived to be by the world.

While China is engaged in delaying tactics, other countries are also biding their time and modernising simultaneously. Losing freedom of navigation is detrimental for any maritime nation, and for China to attain power in the real sense, it would need to have sufficient command of the waters in its vicinity. With the revision of the Japan-US defence cooperation, Japan has become a 'normal' military power, adding to the difficulties for China.

While China is trying to win this war without an actual armed conflict, other nations are also hoping for the same. The growing

6. "Whose Splendid Isolation?", *The Economic Times*, June 6, 2015.

alliance in East Asia, the increasing dependency on the US and the growing partnerships with it, are symbols of a united effort to contain China. However, the neighbours also do not want to lose the economic benefit they have been receiving through trade with China. For the neighbours in dispute with China, the best case scenario is that China understands the subtle signals they have been giving – partnering with the US – and backs out peacefully. However, if China regards such gesturing as a bluff, the US and allies will be at a loss, and not China. China could have been trying to test the Japan-US alliance and/or the US' commitment for the region and/or provoking the region into coming to a decision – conflict or surrender – through the belligerent unapologetic behaviour it has adopted to deal with the region. There is no paradigm where one can assess that a unipolar or bipolar or multipolar international order is desirable and will be much more stable. But the US did maintain a 'free' usage of goods, of commons, and established organisations for globalised economic order. It is true that a powerful entity could use its power for the wrong purposes and make the wrong decisions, but there is no denying that the US helped to create a much more peaceful and stable system. As China grows to challenge the US hegemony, it is still a lonely power, with no support from the world, contrary to the balance of power theory. The US has gained legitimacy as the sole nation which can protect the region from a challenger. And the fact that nations are partnering with the US to protect their national interests against China, proves that there is no dissatisfaction towards the superpower. The alternative scenario is unacceptable to all alike, creating another hurdle for China in its quest for legitimate recognition of its power.

In other words, the fate of China in the coming years will also seal the fate of many others in the world.

IRAN, SAUDI ARABIA AND ISRAEL TRILATERAL RELATIONS: POST IRAN NUCLEAR DEAL

ANU SHARMA

The nuclear deal of Iran with the West has posed major challenges in the West Asian region, a region which can be termed as one of the most geo-strategically important areas in the world. Iran is now perceived as a threat by Israel and the Sunni Arab world. Kenneth Pollack argues that the nuclear deal has the potential to fundamentally alter the potential strategic environment in West Asia as well as South Asia, by providing a new security archetype in the region.¹ Iran's engagement (nuclear or otherwise) with the Western powers can potentially pose a serious challenge to the 'moderate' Arab states in the region.² One of the most significant aspects of Iran's nuclear deal is that it fuels Iran's ambition of regional hegemony, which will put it in competition with Israel for dominance in the region, and, in turn, affect the US' position in the region. The regional politics, as many

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1. Kenneth M. Pollack, "Regional Implications of a Nuclear Agreement with Iran", *Brookings*, July 9, 2015, <http://www.brookings.edu/research/testimony/2015/07/09-pollack-iran-nuclear-agreement>. Accessed on January 18, 2016.
2. K. Iqbal, "Regional Implications of Iran Nuclear Deal" *The Nation*, August 10, 2015, <http://nation.com.pk/columns/10-Aug-2015/regional-implications-of-iran-nuclear-deal>. Accessed on January 16, 2016.

argue, will be in overplay in the region as the two staunch allies of the US—Israel and Saudi Arabia—have opposed the deal. With the power balance disturbed, Saudi Arabia is now attempting to stride into the fray (with the rest of the Arab community) as the leader of the pan-Arab movement in the region. Cailean Madden argues that if Iran had been able to enrich enough uranium to develop nuclear weapons, the international community would assuredly have seen of Saudi Arabia and the rest of the Gulf states following suit.³ It is unlikely that a military attack on Iran from Israel will be able to prevent Iran from acquiring or developing nuclear weapons.⁴ The chances are that the nuclear deal with Iran will make Israel seek increased US aid to develop an arsenal to counter any looming Iranian threat.

The Kingdom of Saudi Arabia and the Islamic Republic of Iran are two of the most important regional players in West Asian politics today. Both have large populations and territories, and collectively sit atop some of the largest reserves of oil in the world. While both are Islamic (Muslim) states, Iran officially adheres to Shi'ism, while Saudi Arabia adheres to the Sunni version of Islam, within which it specifically follows the Wahhabi sect. Both countries regard themselves as guardians of a specific religious-political order within Islam and also aspire to regional leadership. Saudi Arabia is uniquely strong within Arab politics at the moment. In the present circumstances, Saudi Arabia can rely on the close proximity and partnership with the United Arab Emirates (UAE), and the temporary weakness of traditional powers such as Egypt, Syria and Iraq.⁵ Saudi Arabia views Iran's reintegration into the international order and its evolving relationship with the US as a profound threat to its own regional position.⁶

The uneasiness in the region can be attributed to various factors; Islamic extremism, political turnover, unstable oil prices and long-

3. Cailean Madden, "Assessing the Regional Implications of the Iran Nuclear Deal", *Foreign Observer*, August 29, 2015, <http://www.theforeignobserver.com/2015/07/29/assessing-regional-implications-iran-nuclear-deal/>. Accessed on January 15, 2016.

4. Pollack, n. 1.

5. Marc Lynch, "Why Saudi Arabia Escalated the Middle East's Sectarian Conflict", *Washington Post*, January 4, 2016, <https://www.washingtonpost.com/news/monkey-cage/wp/2016/01/04/why-saudi-arabia-escalated-the-middle-east-s-sectarian-conflict/>. Accessed on January 18, 2016.

6. *Ibid.*

standing sectarian tensions. Iran and Saudi Arabia represent the two most powerful anti-revolutionary powers in the area; at the same time, their evident hostility has, in a way, aggravated the persisting Shia-Sunni sectarianism.⁷ Furthermore, Iran-Israel relations have varied over time but Israel has rarely lost sight of Iran's importance in regional politics. The nuclear controversy in the Iran-Saudi Arabia-Israel relations is a relatively a recent addition to regional "trilateral politics".⁸

Riyadh and Tel Aviv have no significant diplomatic ties, but despite the the cultural and religious differences between them, the two nations have developed a convergence of interest in opposing Iran. It should be kept in mind that both countries are close allies of the West, sharing 'analogous' positions on Syria and Iran.⁹ It is for this reason that there has emerged a somewhat forced engagement among Iran, Saudi Arabia and Israel in safeguarding their respective interests, thereby aligning them in their opposition.¹⁰ The apparent hostility of Israel and Saudi Arabia against Iran on the issue of the nuclear deal, does not contravene, but rather aggravates the situation in the region.¹¹ One of the reasons for this increasingly apparent hostility in the region on the nuclear issue is that both Israel and Saudi Arabia feel intimidated by Iran's nuclear plans. Certainly, there is arguably more than one reason to believe that Israel was the country that introduced nuclear weapons in the region, thereby precipitating proliferation.¹²

7. Hamid Dabashi, "Iran, the US and the Arab World: The Dynamics of Counterrevolutionary Forces" Arab Centre for Research and Policy Studies, July 15, 2015, <http://english.dohainstitute.org/release/e10eac9c-1088-4212-8ac1-e7aea28b5dcc>. Accessed on January 14, 2016.

8. P.R. Kumaraswamy, *Israel Confronts Iran: Rationales, Responses and Fallouts*, IDSA Monograph Series, No. 8 (New Delhi: Institute of Defence Studies and Analyses, 2012), p. 8.

9. Steven Macmillan, "US-NATO Allies Saudi Arabia and Israel Edge Closer to War with Iran", *Global Research*, March 19, 2015 <http://www.globalresearch.ca/us-nato-allies-saudi-arabia-and-israel-edge-closer-to-war-with-iran/5437626>. Accessed on January 15, 2016.

10. Dabashi, n. 7.

11. Yaroslav Trofimov, "Saudi Arabia Reluctantly Finds Common Ground with Israel about Iran", *Wall Street Journal*, June 18, 2015 http://www.wsj.com/article_email/saudi-arabia-reluctantly-finds-common-cause-with-israel-in-suspicious-about-iran-1434627043-1MyQjAxMTI1MTE0ODcxMzgZWj. Accessed on January 14, 2016.

12. Ibid.

IRAN-SAUDI ARABIA RELATIONS POST NUCLEAR DEAL

The stressful nature of Iran-Saudi Arabia relations was apparent once again with tensions running high after the kingdom executed Shia cleric, Nimr Baqr al-Nimr, along with 46 other Shias on January 2, 2016.¹³ The very next day, protesters in Iran attacked and burnt the Saudi Arabian embassy in Tehran, which led the kingdom to cut off diplomatic relations with Iran.¹⁴ A number of smaller Sunni states, particularly the members of the Gulf Cooperation Council (GCC), followed suit. These developments took place at a time when Iran, having faced years of economic sanctions over its nuclear programme, was finding its way back into the international scene post its deal with the US in July 2015. Iran-Saudi Arabia relations appear to be at an all-time low after this incident, with some Western commentators stating that “we’re witnessing a Saudi-Iran war” of sorts.¹⁵

During the Cold War, both countries were part of the US’ “*Twin Pillar*”¹⁶ policy towards the containment of Communism; and since both countries were monarchies and had similar foreign policy considerations, relations between them were relatively cordial. At the

13. While Sheikh Nimr Baqr al-Nimr, a Saudi Shia cleric from the country’s Eastern Province, was known to be critical of the government on its treatment of its Shia minority population, in recent years, he sought to distance himself from Tehran. It must be acknowledged that the Saudi regime’s execution of al-Nimr and many others was a signal to dissenters *within* the country, rather than to Iran, which is commonly being perceived in the current geo-political scenario in the region.
14. While cutting off diplomatic ties, the Saudi government gave the Iranian ambassador in Riyadh 40 hours notice to leave the country.
15. Thomas E. Ricks, “What Would a Saudi-Iran War Look Like? Don’t Look Now, But it is Already Here”, *Foreign Policy*, January 11, 2016, <http://foreignpolicy.com/2016/01/11/what-would-a-saudi-iran-war-look-like-dont-look-now-but-it-is-already-here/>. Accessed on January 11, 2016
16. Twin Pillars Policy: in the 1970s, instead of direct intervention in the Persian Gulf region, the US decided to build up its allies, Iran and Saudi Arabia. This was part of the policy that was meant to deal with protecting the region from the Soviet influence. Under this policy, the US encouraged both countries to acquire arms worth billions of dollars and advanced in technologies. Iran embraced this policy more enthusiastically than Saudi Arabia and intervened in Iraq and Oman with US’ approbation. The Shah of Iran, Mohammad Reza Pahlavi became the protector of Western influence in the region. However, the policy suddenly collapsed in 1979 with the overthrow of the regime in 1979. The new regime in Iran was opposed to the Western influence on Iran. For details, see Majid Behestani and Mehdi Hedayati Shahidani, “Twin Pillars Policy: Engagement of US-Iran Foreign Affairs during the Last Two Decades of Pahlavi Dynasty”, *Asian Social Science*, vol.11, no. 2, 2015, <http://dx.doi.org/10.5539/ass.v11n2p20>. Accessed on January 20, 2015.

same time, Iran was a stronger military power than Saudi Arabia in the region. The Iranian Revolution in 1979 altered the dynamics of the security architecture in the region. The Shah of Iran was overthrown and the monarchy was replaced by a revolutionary theocratic regime, led by Ayatollah Ruhollah Khomeini, which was opposed to the US and the West. Saudi Arabia saw Iran under Khomeini's leadership as a "destabilising force" leading to estranged relations between the two countries. Geographically located on opposite sides of the Gulf, Iran and Saudi Arabia have been very different ideologically and politically which explains the apparent sectarian rivalry between the two nations.

In the 1980s, Saudi Arabia supported Iraq under Saddam Hussein in its war against Iran. During this time, Saudi Arabia also started portraying itself as a leader of the Islamic world, with its then King Fahd adopting the formal title of "Custodian of the Two Holy Cities of Mecca and Medina" in 1986. There was a break in diplomatic relations after the incident of the death of 275 Iranian pilgrims in Mecca during the Haj. The 1990s saw a resumption of diplomatic relations between the two nations. The relations during the time of Iranian Presidents Hashemi Rafsanjani and Mohammad Khatami saw attempts made by both sides to increase socio-cultural, economic and security cooperation.

Iran adopted a more hawkish posture towards its neighbourhood during Ahmadinejad's two presidential terms. This was also the time Saudi Arabia undertook greater attempts to counter Iran's bid to increase its influence in the region. During the 1980s and 1990s, Iran's isolation increased and Saudi Arabia emerged as an important American ally in the region and became a "well-established player in the world oil market."¹⁷

However, more recently, in the 2000s, Iran started to negotiate with the Western powers to persuade them to put an end to the sanctions. Post 9/11 saw the wars in Afghanistan and Iraq (in 2003) and the subsequent fall of Saddam Hussein. This, in turn, created the power vacuum in the Persian Gulf region. The removal of the Iraqi leader was also seen by Saudi Arabia as a chance being utilised by Iran to engage in the West Asian power politics and also ending its long isolation.

17. Ariane Tabatabai, "What Does the Tehran-Riyadh Split Mean for the Iranian Nuclear Deal"? *The Bulletin*, January 7, 2016, <http://thebulletin.org/what-does-tehran-riyadh-split-mean-iranian-nuclear-deal9041>. Accessed on January 15, 2016.

Iran was willing to negotiate a deal on its nuclear programme that would ease the stringent economic sanctions it was facing. In April 2015, the US, Iran and five other world powers sealed a breakthrough framework agreement which would enable Iran to get integrated into the multilateral non-proliferation regime.¹⁸ The Islamic Republic was promised an end to years of crippling economic sanctions, but only if the negotiators transform(ed) the plan into a comprehensive pact by the “Implementation Day” in 2016.¹⁹ On January 16, 2016, the International Atomic Energy Agency (IAEA) verified that Iran had completed the necessary steps under the deal that would ensure that Iran’s nuclear programme is, and remains, exclusively peaceful.²⁰

Saudi Arabia was critical of the deal as it perceived it to be a ploy that would strengthen the position of Iran and its allies in the region.²¹ From the Kingdom’s point of view, as stated by Mansour al-Marzouki, a Saudi researcher, “Iran will have the ability to improve its economic standing, and the capability to create a nuclear weapon—since the deal will only take effect for a relatively short period of time, 15 years, and will not destroy Iran’s technical capabilities to maintain a nuclear programme. Both results would strengthen Iran and its allies in the region.”²²

Importantly, the world was treated to a rare communion of Saudi Arabia and Israel on the issue, with both strongly criticising the deal. In fact, post the November 2013 agreement at Geneva between Iran and the P5+1, which Saudi Arabia had opposed, there was speculation that the Saudis would obtain nuclear weapons from Pakistan, clearly hinting at the unease and insecurity dogging the kingdom as it saw the beginning of a possible end to its rival’s isolation.²³

18. “Obama Hails ‘Historic’ Iran Nuclear Deal”, *Al Jazeera*, April 3, 2015, <http://www.aljazeera.com/news/2015/04/obama-hails-historic-iran-nuclear-deal-150403050358349.html>. Accessed on January 14, 2016.

19. *Ibid.*

20. “The Historic Deal that will Prevent Iran from Acquiring a Nuclear Weapon”, *The White House*, <https://www.whitehouse.gov/issues/foreign-policy/iran-deal.html>. Accessed on March 8, 2016.

21. Tabatabai, n.17.

22. Mansour al-Marzouki, “Why Saudi Arabia and Israel Oppose Iran Nuclear Deal”, *Al Jazeera*, April 14, 2015, <http://www.aljazeera.com/news/2015/04/saudi-arabia-israel-oppose-iran-nuclear-deal-150401061906177.html>. Accessed on January 14, 2016.

23. Aryn Baker, “Saudi Arabia Considers Nuclear Weapons After Iran’s Geneva Deal”, *Time*, November 26, 2013, <http://world.time.com/2013/11/26/saudi-arabia-considers-nuclear-weapons-after-irans-geneva-deal/>. Accessed on January 14, 2016.

Riyadh's reaction to the 2015 agreements has been an escalation of confrontation with Iran in several proxy arenas: Yemen and Syria are the two cases in this context. In Yemen, the Houthis rebels are perceived to be supported by Iran and the Saudis have taken the lead in bombing rebel strongholds in the north of Syria. The Syrian regime led by Bashar Al-Assad is Iran's only Arab ally in the region. The rise of the Islamic State in Syria and Iraq, a hard-line Salafist group that declared a 'caliphate' in 2014, however, has seen Iran and Saudi Arabia ostensibly arrayed on the same side. Saudi Arabia's Eastern Province has a significant number of Shias and the regime has always felt that Iran has had undue influence on these people. In this context, the recent breaking of diplomatic ties and the tension in Saudi-Iran relations appears to be an addition to the series of events that characterise an antagonistic relationship.

Emile Nakleh, an expert on Middle Eastern society and politics and on political Islam, contends that Saudi Arabia's ad-hoc warlike posturing against Iran and continued war in Yemen, however, will exacerbate regional tensions. According to him, the Saudi execution of Sheikh Nimr Baqr al-Nimr is not about Iran or the Saudi-Iranian power struggle and regional influence in the Persian Gulf. Through this act, according to him, Saudi Arabia is sending a clear message that it intends to silence the voices of Arab pro-democracy dissidents. The Saudi-led counter-revolution will not tolerate demands for regime change, no matter how odious the regime might be.²⁴

IRAN-ISRAEL RELATIONS POST NUCLEAR DEAL

For the Israelis and Saudis, Iran represents a model of revolutionary and representative government. This is threatening to both Israel's and Saudi Arabia's own political environments. Both Israel and Saudi Arabia are of the view that the nuclear deal will give Iran an upper hand in the region.

In view of Israel's resisting stance on Iran's nuclear deal, it should be borne in mind that Israel continues to maintain its nuclear ambiguity, clearly hinting that it neither confirms nor denies the

24. Emile Nakleh, "Saudi Arabia and Iran: Is War Imminent?", *Loblog Foreign Policy*, January 13, 2016, <http://lobelog.com/saudi-arabia-and-iran-is-war-imminent/>. Accessed on January 14, 2016.

possession of nuclear weapons.²⁵ For better or for worse, the Arab states and the single Jewish state in the West Asian region have long been accustomed to having outside help in managing their security but Israel does so in far lesser degree than Saudi Arabia. It is estimated that Israel has a stockpile of approximately 80 nuclear weapons which it began to build in the 1960s.²⁶ However, very little public information is available on the operating history and power capacity of Israel's nuclear reactors. One of the major reasons of concern in Tel Aviv against the nuclear deal is related to the Israeli suspicions about Iran leading the inspectors astray. The US has, apparently, worked as a security guarantor for both Israel and Saudi Arabia, either directly / indirectly.

Looking back at the historical trajectory of Iran-Israel relations, one needs to look at the reasons responsible for the deteriorating relations between Israel and Iran after the first Persian Gulf War (1990-91). This was despite the fact that Iran had a pragmatic foreign policy and outreach to the US. As for Israel, it had labelled Iran as a "geo-strategic friend" in 1987, with a turn-table posture of labelling it a "global threat" in 1992.²⁷

In the early 1950s, Iran, under Shah, was the second Islamic state in West Asia (after Turkey) to give *de facto* recognition to Israel. This led to the mutual partnership between the two nations, with Iran supplying Israel with oil, gas, raw materials, food stuff and consumer goods. At the same time, Israel shared its experience and technology in agriculture, medicine, science and cutting edge scientific research with Iran. During the Shah's reign, the two countries enjoyed a geo-strategic working relationship involving intelligence and security cooperation, an energy alliance, including the Israeli import of Iranian oil during the Suez Crisis of 1956, and common positions on the threats posed by the Soviet Union and pan-Arabism. The geo-strategic setting in West Asia is once again favourable for Iran-Israel rapprochement, whether explicit or behind closed doors. Before the Iranian Revolution, when the Shah was leading Iran, Israel and Iran shared a pro-Western bent. They operated overtly and covertly on

25. Shannon N. Kile and Hans M. Christensen, *SIPRI Yearbook 2015: Israeli Nuclear Forces* (Oxford: Oxford University Press, Oxford, 2015), pp. 507-508.

26. Ibid.

27. Ibid.

economic, political and security issues. The prime reason for the relations between Iran and Israel not being at their worst in the 1980s is that both countries had a common enemy in Iraq, a country that fought an eight-year war with Iran. In fact, Israel even supplied weapons to Iran to help it fight Iraq.²⁸

Iran and Israel maintained relatively cordial relations till the 1979 Iranian Revolution. The relationship between the two became strained in the following years. Vladimir Simonov, an expert on the Middle East, raised a question “...why did Iran so abruptly change its attitude towards Israel? Nothing much happened, except for the 1979 Islamic Revolution in Iran. The people overthrew the Shah, whose last years had seen of reckless oil exporting, looting of the country, and unchecked corruption. Naturally, under these circumstances, Israel launched an undeclared war against Iran’s Islamic revolutionaries. And it all went downhill from there.”²⁹

Parallel strategic interests in West Asia helped the two countries put their ideological differences aside for more than 30 years. The ties were closest in the 1970s when Israel sold Iran weapons worth US\$ 500 million per year, even teaming up to build a \$1 billion programme to develop the surface-to-surface missile.³⁰

In the early 1990s, Israel started portraying Iran and its nuclear programme “as a lethal threat to Israel” clearly hinting that the defeat of Iraq by Iran had made Iran a strategic superpower in the region. Furthermore, Israel’s antagonism towards Iran could also be seen as a response to Iran’s support for militant anti-Israeli groups, i.e. Hezbollah and Islamic Jihad.³¹ On the other hand, Ephraim Sneh

28. Iran-Contra Affair: The secret arrangement in the 1980s to provide funds to the Nicaraguan Contra rebels from profits gained by selling arms to Iran. The Iran-Contra affair was the result of two separate initiatives during the presidency of Ronald Reagan. The first was a commitment to aid the Contras who were conducting a guerrilla war against the Sandinista government in Nicaragua. The second was to placate the “moderates” within the Iranian government in order to secure the release of American hostages held by the pro-Iranian groups in Lebanon and to influence the Iranian foreign policy in a pro-West direction.

29. Vladimir Simonov, “Iran-Israel Relations—Yesterday and Today”, *Veterans Today*, October 12, 2013, <http://www.veteranstoday.com/2013/10/12/iran-israel-relations-yesterday-and-today/>. Accessed on January 12, 2016.

30. Steven Simon, “Iran and Israel”, *Iran Primer*, <http://iranprimer.usip.org/resource/iran-and-israel>. Accessed on January 18, 2016.

31. Trita Parsi, “Israeli-Iranian Relations Assessed: Strategic Competition from the Power Cycle Perspective” in Homa Katouzian and Hossein Shahidi, eds., *Iran in the 21st Century: Politics, Economics and Conflict* (London: Routledge, 2008), pp. 138-139.

argues that Israel's foreign policy vis-à-vis Iran is also governed by the ideologies of the military and strategic doctrines. Israeli leaders—Yitzhak Rabin and Shimon Perez—in the early 1990s consistently argued that Iran would once again become an explicit ally if “moderate” elements in Tehran were strengthened.³² The end of the Cold War and subsequent changes in West Asia's geo-political scene saw a significant power shift in which the Israeli leadership touted Iran as a greater threat after the elimination of the Arab threat following Saddam Hussein's defeat in the Persian Gulf War and the disintegration of the Soviet Union.

In the current scenario, Israelis fear that the nuclear deal will legitimise Iran as a nuclear threshold state, can embolden its rather destabilising role in the West Asian region, and can trigger nuclear proliferation and a conventional arms race in the region.³³ However, many analysts like Trita Parsi believe that the overtures in the Iranian-Israeli postures are premature and it makes geo-strategic sense for the two adversaries to set aside their mutual hostility to address the common concerns in the region. An Iranian-Israeli rapprochement is neither unprecedented nor impossible. In contrast, the turmoil in Syria and the proxy battle with Saudi Arabia highlights the deep enmity between Tehran and its long standing rival, Riyadh.³⁴

It would not be incorrect to state that in the recent past, Iran's nuclear programme has raised the prospects of an armed conflict between Israel and Iran.³⁵ Nevertheless, in Israel's eyes, the removal of sanctions on Iran, and the nuclear deal appear to be a risky gamble in the regional power play.³⁶ It can be interpreted that the rivalry between Iran and Israel is driven by Israel's fear that Washington

32. Ephraim Sneh, “Don't Be Fooled: Iran Still Traffics in Terror”, *Los Angeles Times*, March 4, 2003, <http://articles.latimes.com/2003/mar/04/opinion/oe-sneh4>. Accessed on January 13, 2016.

33. Michael Herzog, “Israel Confronts the Iran Nuclear Deal”, Washington Institute, July 24, 2015 www.washingtoninstitute.org/policy-analysis/views/israel-confronts-the-iran-nuclear-deal. Accessed on January 8, 2015.

34. Naved Hassibi, “Why Can't Iran and Israel be Friends?”, *The Guardian*, February 20, 2014, www.theguardian.com/world/iran-blog/2014/feb/20/why-cant-iran-and-israel-be-friends. Accessed on January 13, 2016.

35. Joe Sterling, “War Drums from Iran and Israel Drown Out Rich Past”, *CNN*, March 8, 2012, www.edition.cnn.com/2012/03/08/world/meast/israel-iran-relations/. Accessed on January 11, 2016.

36. Herzog, n. 33.

would end up finding a compromise with Iran which can shift the balance of power, apparently, not in favour of Israel.

CONCLUSION

The threat and rivalry reassessment was part of a greater Iranian and Israeli redefinition of their respective roles and positions in the emerging West Asian order under the US hegemony. Although, the redistribution of power has created three poles in the West Asian region—Israel, Iran and Saudi Arabia—which are competing for a relative power share, the presence of the US forces in the region has dampened the volatility in relative power fluctuation.³⁷ Kenneth Pollock believes that instead of isolating Iran from the rest of the world, the US should rehabilitate Iran into West Asia's economic and political order in return for Iran making significant changes in its behaviour, including ending its hostilities with Israel and Saudi Arabia.³⁸ The Saudi goal is to preserve the flow of oil in the global market which would require the reduction of the regional risks in the region for Saudi Arabia. On the other hand, Israel's regional importance is degraded (to a certain extent) by Iran's nuclear deal with the US. Israel's opposition to the deal stems from the fear that Iran will disregard the deal and attempt to create nuclear weapons for destructive purposes. Further, Israel has apprehensions on whether Iran would abide to its commitments. A ten-year suspension of any Iranian attempt to create nuclear weapons is (to a certain extent) bound to bring back the spotlight on Israel to stop hiding behind its policy of ambiguity and openly join the international nuclear non-proliferation agreement. It can be said that Iranian rapprochement with the West will fundamentally alter the status quo in the region which has started to play to Iran's advantage.

37. Kenneth Pollack, *The Persian Puzzle* (New York: Random House Publishing Group, 2004), pp. 257-258.

38. Trita Parsi, "Iran-Israel Relations are the Key to Mid-East Peace" November 30, 2009 www.stage.louisville.edu/grawemeyer/news-updates/iran-israel-relations-are-key-to-mideast-peace-says-grawemeyer-award-winner. Accessed on January 12, 2016.

UNDERSTANDING THE RELEVANCE OF INDIAN MILITARY HISTORIES

R K NARANG

*Read over and over again the campaigns of Alexander,
Hannibal, Caesar, Gustavus, Turenne, Eugene and Frederic. ...
This is the only way to become a great general
and master the secrets of the art of war.*

- Napoleon Bonaparte

Military history has been defined differently by different academicians and historians. The *Oxford Dictionary* defines military history as “the study of the role that armed forces played in past events”.¹ According to the *Army Study Guide*, a non-government privately-sponsored website, military history is “the record of all activities of all armed forces (including armies, navies and air forces) in war and peace”.² Military histories are intimately linked to a country’s growth and progress.³ David Chandler, head of the Department of War Studies

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1. “Definition of Military History”, *Oxford Dictionary*, <http://www.oxforddictionaries.com/definition/english/military-history>. Accessed on September 29, 2015.
2. “The Role and Use of Military History”, *Army Study Guide*, http://www.armystudyguide.com/content/powerpoint/History_Presentations/the-role-and-use-of-milit-2.shtml. Accessed on September 29, 2015.
3. “Military Histories”, <http://www.militaryhistories.ca/#>. Accessed on September 29, 2015.

and International Affairs at the Royal Military Academy, stressed the need for the study of military history as knowledge of past wars can help in understanding the problems of the present and could even facilitate in making an assessment of the future. In other words, knowledge could prove useful in preventing mistakes which led to armed conflicts in the past.⁴

As for understanding military history in the Indian context, Indian soldiers had fought as part of the British Army in World War I and World War II, prior to India's independence. About 1.2 million Indian soldiers had served in various battlefronts of Europe in World War I and nearly 74,000 of them laid down their lives.⁵ The soldiers from undivided India were awarded 11 Victoria Crosses (the highest gallantry award in Britain) during World War I, out of whom the origins of three were traced to present-day Pakistan and two to Nepal.⁶ Two and a half million Indians had participated in World War II with over 24,000 laying down their lives, 64,000 wounded and 11,700 missing.⁷ Indian soldiers received 4,000 awards in World War II, including 32 Victoria Crosses, of which two were awarded posthumously.⁸ However, most people in India know very little about them. The official histories of these wars, compiled on behalf of the British government, had focussed on highlighting the contributions of British soldiers and largely ignored the contribution of thousands of Indian soldiers. After independence, Indian armed forces soldiers have been involved in many operations of varying

4. Michael Howard, "What is Military History?", *History Today*, vol. 34, issue 12, December 12, 1984, <http://www.historytoday.com/michael-howard/what-military-history>. Accessed on September 29, 2015.
5. Kounteya Sinha, "World War I: UK Announces Search For Families Of 74,000 Indian Soldiers Who Died Fighting", *The Times of India*, May 15, 2013, <http://timesofindia.indiatimes.com/world/uk/World-War-I-UK-announces-search-for-families-of-74000-Indian-soldiers-who-died-fighting/articleshow/20070529.cms>. Accessed on September 30, 2015
6. "UK Honours First World War Indian Heroes", *The Indian Express*, June 26, 2014, <http://indianexpress.com/article/world/indians-abroad/uk-honours-first-world-war-indian-heroes/>. Accessed on September 30, 2015
7. "The Indian Army in the Second World War", Commonwealth War Graves Commission Forever India, <http://www.cwgc.org/foreverindia/context/indian-army-in-2nd-world-war.php>. Accessed on September 30, 2015.
8. "Battle Honours for the Troops of Undivided India", Commonwealth War Graves Commission Forever India, <http://www.cwgc.org/foreverindia/military-honours/>. Accessed on September 30, 2015.

intensity. The History Division of the Ministry of Defence is responsible for compiling official histories of the post-independence era. The histories of some of these operations have been published and the remaining histories have either not been written or published. The histories of the India-Pakistan Wars of 1965 and 1971, though compiled in the mid 1980s, were published much later. India has been slow in publishing official historical accounts of the wars of the post-independence period. However, very few of the published war histories have caught the attention of the public. There is also inadequate coverage of these histories in the curricula of schools and colleges, resulting in diminishing awareness among the younger generations about the contributions of the Indian armed forces in wars/armed conflicts.

This paper attempts to explore some of the untouched aspects of the official Indian military histories from World War I onwards. It discusses the need to revisit histories, improving archiving, timely publishing, secrecy and declassification, and inclusion of these histories in academic curricula.

INDIAN MILITARY HISTORIES

Brig WEH Condon, the British officer in charge of drafting war despatches in India had recommended to General Staff Headquarters (GHQ) to establish a History Section in India on the lines of the Dominions of Canada, Australia, New Zealand and South Africa in 1943. The "Historical Section, India" was established in July 1945 with Maj Gen TW Corbett as the Director. It was redesignated as the "Historical Section India and Pakistan" during the partition in 1947. In April 1948, the Historical Section brought out the *History of Indian Armed Forces in World War II* in 25 volumes.⁹ It was renamed as "History Division" on October 26, 1953, and tasked to compile the histories of military operations conducted by the Indian armed forces.¹⁰

The History Division of the Ministry of Defence (MoD) has compiled and published 17 volumes, including the history of *Operations in Jammu and Kashmir 1947-48, Operation Polo* (Hyderabad),

9. "Housing History", *Sainik Samachar*, vol 58, no.2, January 2011 pp 20-21.

10. "History Division", Ministry of Defence, Government of India, <http://www.mod.nic.in/forms/List.aspx?lid=1601&Id=61>. Accessed on September 28, 2015.

Operation Vijay (Goa), Military Costumes of India, Stories of Heroism, The India-Pakistan War of 1965 and The India-Pakistan War of 1971-A History. In addition, the history of the Indian armed forces on UN Peace-Keeping Operations (UNPKOs), including the *Indian Armed Forces in UN Operations in Congo, CFI or The Indian Troops in Korea 1953-54, Operation Shanti (Indian Troops in Egypt) and Terrific Responsibility (The Battle for Peace in Indo-China)*, have also been published.¹¹

The India-Pakistan War of 1971- A History was released by Shri Shekhar Dutt, former governor of Chhattisgarh, at the Vivekananda International Centre, New Delhi, on January 21, 2015. The publication of the official history, 44 years after the India-Pakistan War of 1971, is a welcome step in honouring the war heroes/martyrs of the armed forces. The history is written in English and authored by two eminent historians and former directors of the History Division of the MoD, the late Shri SN Prasad and Shri UP Thapliyal.

Some of the military histories that are yet to be officially compiled and/ or published include the histories of the India-China War of 1962, Indian Peace-Keeping Force in Sri Lanka, Siachen Operations 1984,¹² Operation Cactus in Maldives, Kargil Conflict and UN Peace-Keeping Operations.

RELEVANCE OF WAR HISTORIES

People have two deaths: the first when they go away, and the second at the end of the memory of their lives, when all who remember them are gone. Then a person quits the world completely.

– Raghu Karnad¹³

World War I began in 1914 in Europe and a total of 12,00,000 Indian soldiers fought as part of the British forces, of whom over

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11. "Annual Report 2014-15", Ministry of Defence, Government of India, <http://www.mod.nic.in/writereaddata/AR1415.pdf>. Accessed on September 28, 2015.
 12. Pradip R Sagar, "Shoot to Thrill: Government to Glorify Indian Wars", *The New Indian Express*, July 26, 2015, <http://www.newindianexpress.com/thesundaystandard/Shoot-to-Thrill-Government-to-Glorify-Indian-Wars/2015/07/26/article2940321.ece>. Accessed on September 10, 2015.
 13. Payal Majumdar, "The Farthest Field: Raghu Karnad on the Forgotten Indian Soldiers of History", *The Sunday Guardian*, August 1, 2015, <http://www.sunday-guardian.com/artbeat/the-farthest-field-raghu-karnad-on-the-forgotten-indian-soldiers-of-history>. Accessed on September 19, 2015.

74,000 lost their lives. A commemoration ceremony was organised thousands of miles away from India at the Imperial War Museum North, Manchester, in the UK, in which its Cultural Secretary, Sajid Javed paid homage to the Indian soldiers and highlighted the need “to tell the story of incredible courage, and commitment of the Indian troops in the Battle of Neuve Chapelle, France, to future generations.”¹⁴ The British were quick to build India Gate and etch the names of the Indian soldiers who had laid down their lives during the war. However, the history of the war has not been compiled to honour and acknowledge the contribution and sacrifices of Indian soldiers.

Raghu Karnad, the author of the non-fiction book *Farthest Field*, inspired by his grandfather and grand-uncle’s involvement in World War II, dedicated his book to the forgotten heroes of the war.¹⁵ The book, released on June 25, 2015, is a cold reminder of the Indian soldiers, who appear to have been forgotten.¹⁶

The histories of wars fought by the Indian soldiers under British rulers were written by British/ Western writers from their point of view. The prejudice faced by Indian soldiers while fighting some of the most brutal battles for their rulers with second rate equipment, have gone unnoticed. The vast areas of the history are lost in regimental diaries, traditions and oral accounts of individuals. The Indian soldiers, who bravely fought in these wars, are not part of the stories of valour and sacrifice. The contributions of Indian soldiers, who were part of the “Indian National Army” and had fought with the Japanese against the British rulers with an aim to seek independence too have gone unnoticed. The Indian soldiers of that era did not document many of their deeds and the text-books are more or less silent on the deeds of these soldiers, their sacrifices and valour. The contribution of the Indian soldiers is likely to be lost due to lack of compiled histories, or on account

14. “Indian Troops Contribution To First World War Honoured”, Government of UK, March 10, 2015, <https://www.gov.uk/government/news/indian-troops-contribution-to-first-world-war-honoured>. Accessed on March 13, 2015.

15. Divya Shankar, “Personal Stories Are Better Way To Explain War Tales:Raghu Karnad”, *The Economic Times*, June 25, 2015, http://articles.economictimes.indiatimes.com/2015-06-25/news/63831070_1_world-war-ii-war-tales-fiction. Accessed on September 19, 2015.

16. “Madras Must Not Burn,” <http://www.thehindu.com/todays-paper/tp-features/tp-sundaymagazine/madras-must-not-burn/article7313516.ece>. Accessed on February 16, 2016.

of the availability of one-sided historical accounts written by the past rulers of India.

The archiving of historical records is another area which needs attention. The failure to archive crucial historical facts could deprive future generations of valuable insights into operations and circumstances. Therefore, accurate and timely compilation of war histories is necessary for a critical analysis of wars and to draw the correct lessons. In addition, some of the key stakeholders may leave the Services or not live long enough to tell the story and, therefore, the delay also adversely affects the quality of the compilation.

DELAYS IN COMPILING AND PUBLISHING

The compilation and publication of histories of the wars fought by India in the post-independence period have seen prolonged delays. The Indian armed forces officers, during their professional training courses, study the Arab-Israel Wars, Gulf Wars, etc. in greater detail than the wars fought by India, due to the delay in their histories' publication. The compilation of war histories should be initiated at the earliest, to draw the correct and timely lessons. The *Air Power Survey Summary Report* for the Gulf War, 1991 was published by the US as early as in 1993.¹⁷ Delays in compilation may result in loss of valuable inputs due to the fading of institutional as well as individual memory. Some of the key stakeholders may not be alive to describe the intricate details and rationale behind certain key political, diplomatic and military actions. The delays could also affect the assessment of the circumstances of the war, the shortcomings and the strengths, and the drawing of lessons from them, therefore, may not be correctly presented in the history.

Dr Sri Nandan Prasad,¹⁸ the passionate historian, like many other heroes of the war did not live to see the publication of the history authored by him.¹⁹ The delay in declassification of records is being

17. Thomas Keaney and Elliot Cohen, "Gulf War: Air Power Survey", 1993, <http://www.afhso.af.mil/shared/media/document/AFD-100927-061.pdf>. Accessed on September 11, 2015.

18. Anil Athale, "Dr. S N Prasad: A Doyen among Military Historians", *Rediff*, September 20, 2011, <http://www.rediff.com/news/slide-show/slide-show-1-sn-prasad-a-doyen-among-military-historians/20110920.htm>. Accessed on January 28, 2015.

19. Late Dr SN Prasad had done his post-doctoral research on military history at Princeton University. He headed the History Division, MoD, from 1964-69 and National Archives of India from 1969 to 1979. He became Vice President of the Executive Committee of International Council on Archives (ICA), Paris, from 1972 to 1980.

described as the main reason for the delay in the publishing of military histories.²⁰ The accounts of a war available prior to the official war history are often penned down by individual authors. The researchers and military historians have to depend upon these accounts as they do not have access to the official histories, due to delays. This adversely impacts the study and analysis of wars, resulting in lesser understanding of the circumstances of the wars, the diplomatic and the international situations, assessment of the adversary's motives, and military preparedness and constraints faced during the war. As a result, the correct lessons may not emerge and valuable inputs from war histories may not be available while formulating future strategy. Military historians too lose interest in carrying out *post facto* analysis of the war histories. The sacrifices and contributions of the armed forces personnel, diplomats, leaders and the common people who made such victories possible may also not get due recognition. Therefore, accurate compilation and timely publication of military histories is essential to ensure that the histories are studied, analysed and lessons drawn, to help the nation improve its preparedness, prevent misadventures by adversaries and take them on, should deterrence fail.

SECRECY AND DECLASSIFICATION

Secrecy laws were used by the British rulers to avoid accountability and keep facts away from the Indian public about the reasons and circumstances of various actions taken by them. Some of the secrecy laws enacted by the British are still being followed in India. A case in point is the delay in declassification of the files related to the death of the Indian freedom fighter and leader of the Indian National Army, Subhash Chandra Bose. His death has been a mystery for the Indian public. The delay in declassification of the files related to Netaji has been a cause of anxiety for the Indian public and the family members of Subhash Chandra Bose.

The 64 files about Netaji Subhash Chandra Bose and his family members held by the West Bengal and Kolkata Police were declassified and brought into the public domain by the West Bengal government

20. Satish Nambiar, "The Need for Declassification of War Histories and other Documents", *IDSAs Commentary*, July 6, 2011, http://www.idsa.in/idsacomments/TheNeedforDeclassificationofWarHistoriesandotherDocuments_snambiar_060711.html. Accessed on September 10, 2015.

on September 18, 2015.²¹ The files were digitised before being made public. These will now become part of the Police Archives. The road to declassification of these documents was not smooth. The Kolkata High Court had to intervene and ask the West Bengal government as to why the documents relating to Netaji Subhash Chandra Bose were classified even after 67 years of independence and asked the government to hand over these documents to the National Archives.²² This was followed by the declassification of 100 files related to Netaji by Prime Minister Narendra Modi in January 2016.²³

The declassification of the files pertaining to Netaji Subhash Chandra Bose is a rare initiative by the government as a special case. However, there is need to carry out systematic changes to ensure that the old or outdated laws/ policies do not become hurdles in the progress of the country. The rigid secrecy laws often make it difficult to declassify classified records even if they have outlived their lives. The excessive secrecy deprives the public as well as the nation from learning from the past and drawing the correct lessons. Therefore, there is need to review secrecy Acts/ laws, which have outlived their utility. The Indian government had set up a three-member panel comprising Union Home Secretary LC Goyal, Law Secretary P K Malhotra and the Secretary, Department of Personnel and Training, on April 15, 2015, to review the Official Secrets Act, 1923.²⁴ The panel would seek the views of the Intelligence Bureau and the security agencies. The existing provisions of the Official Secrets Act are too broad and vague and leave a lot room for arbitration. The reason for the laws enacted by the British rulers mandating excessive secrecy was probably due to their insecurity

21. "West Bengal Government Declassifies Netaji Subhas Chandra Bose Files", *The Indian Express*, September 18, 2015. <http://indianexpress.com/article/india/india-others/west-bengal-government-releases-files-on-netaji-subhash-chandra-bose/>. Accessed on March 4, 2015.
22. "Why Netaji's Documents Still Top Secret:HC", *The Hindu*, April 10, 2015, <http://www.thehindu.com/news/cities/kolkata/why-are-netajis-documents-still-top-secret-hc/article7086874.ece>. Accessed on September 19, 2015.
23. Vikas Pathak, "PM Releases 100 Secret Files on Netaji," *The Hindu*, January 24, 2016, <http://www.thehindu.com/news/national/narendra-modi-declassifies-netaji-files/article8145670.ece>. Accessed on February 16, 2016.
24. Jatin Gandhi, "Govt. Forms Panel To Review Official Secrets Act", *The Hindu*, April 16, 2015, <http://www.thehindu.com/news/national/govt-forms-panel-to-review-official-secrets-act/article7105495.ece>. Accessed on September 19, 2015.

about the native Indians. The decision to review the Official Secrets Act, 1923, is a landmark move, which could help in bringing a transition from the excessive secrecy regime of the past century to a transparent and accountable regime.

EDUCATING FUTURE GENERATIONS

Military histories and war monuments play an important part in reminding the future generations of the sacrifices made by our soldiers in protecting the nation from adversaries. The lessons from past histories could help us learn from our experiences, prevent repetition of mistakes and help prepare the nation to face adversaries. A closer look at the history of past conflicts would indicate similarity and/or continuity in adversaries' behaviour and actions. For example, the recent threat of use of nuclear weapons by the Pakistan Army Chief, Gen Raheel Sharif, during the commemoration of the 1965 War in Pakistan brings out the continuity of Pakistan's actions since independence and reinforces the need for learning from past wars.²⁵ The tactical and operational lessons from the military histories may change with the passage of time, but the strategic lessons remain more or less the same. Therefore, there is a need to ensure that we sensitise and educate future generations about military history and past wars.

The British had built India Gate at Kingsway (now Rajpath, New Delhi)²⁶ to commemorate the contribution of the Indian soldiers in World War I. However, there is no memorial to acknowledge the contribution of the armed forces personnel in World War II and other wars of the post independence period. There was a need to build a war memorial that would provide a fitting tribute to the valour and sacrifice of the armed forces personnel. In July 2014, Indian Finance Minister Arun Jaitley, announced the plan for the construction of a war memorial and a war museum at Princes Park near India

25. "Pakistan Army Chief Raheel Sharif Warns India of 'Unbearable Cost' of War," *NDTV*, September 7, 2015, <http://www.ndtv.com/india-news/pakistan-army-chief-raheel-sharif-warns-india-of-unbearable-cost-of-war-1214940>. Accessed on September 8, 2015

26. Naomi Canton, "Lord Parekh: The Contribution of India to World War One was Colossal," *Asia House*, June 4, 2014, <http://asiahouse.org/lord-parekh-contribution-india-world-war-one-colossal/>. Accessed on September 11, 2015.

Gate, New Delhi, and allocation of Rs 100 crore in July 2014.²⁷ This memorial which was first proposed in the 1960s, would honour the soldiers who laid down their lives to defend the nation since 1947. The proposed memorial would have the names of soldiers who laid down their lives in the wars/ operations post-Independence.²⁸

The future generations of India may not know about the contributions of Indian soldiers, not only in pre-independence but also in post-independence wars. In addition, there is a need to create awareness since some of military histories compiled in the post-independence era have gone unnoticed. The following inscription at the World War II War Memorial at Kohima, Nagaland, India, says this about the need for honouring the soldiers:

*When you go home
Tell them of us and say
For your tomorrow
We gave our today.*²⁹

Defence Minister Manohar Parrikar, during the inauguration of Commemoration of 50 Years of the 1965 India-Pakistan War recalled his memories of the war and the impact of war stories on him as a nine-year-old child. He highlighted the need for including the stories of the gallantry and sacrifices of brave soldiers in school curricula to instil a spirit of patriotism and values in future generations.³⁰ The inclusion of military and war studies as a subject for study in higher courses would create a better understanding of the adversaries and challenges, and could help improve responses.

27. Rajat Pandit, "Budget 2014: India To Finally Get a National War Memorial, Modi Govt Allocates Rs 100 cr", *The Times of India*, July 10, 2014, <http://timesofindia.indiatimes.com/budget-2015/union-budget-2015/Budget-2014-India-to-finally-get-a-national-war-memorial-Modi-govt-allocates-Rs-100cr/articleshow/38146054.cms>. Accessed on September 19, 2015.

28. Rajat Pandit, "National War Memorial Finalised at India Gate Complex", *The Times of India*, August 21, 2014, <http://timesofindia.indiatimes.com/india/National-War-Memorial-finalized-at-India-Gate-complex/articleshow/40615307.cms>. Accessed on September 19, 2015.

29. Simon Winchester, "India's Second World War: The History You Don't Hear About", *New Statesman*, July 9, 2015, <http://www.newstatesman.com/culture/2015/07/indias-second-world-war-history-you-dont-hear-about>. Accessed on September 19, 2015.

30. "Stories On 1965 War Should Be Included In School", *Indian Defence Review*, September 1, 2015, <http://www.indiandefencereview.com/news/stories-on-1965-war-should-be-included-in-school-curriculum-manohar-parrikar/>. Accessed on September 9, 2015.

IMPROVING ACCESSIBILITY

The histories so far were published only in English, thus, limiting access to those who are well versed in English. There is a need to publish/translate these into Hindi and other regional languages for wider distribution and readership. There is a need to improve the visibility and accessibility of the historical records of the Indian armed forces to scholars and military historians. Digitisation could prove to be a big enabler in achieving the goal of greater visibility and in educating future generations. The war histories in the past were published only in hard copies, which need to be digitised for the internet as well as mobile users. Digitisation will also help in prolonging the life of old documents. However, digitisation of hard copies is a time consuming process, therefore, it would be prudent to henceforth, archive records in digital formats to facilitate easy access to scholars and military historians in the future, as well as in making compilation easier.

CONCLUSION

The Golden Jubilee Commemoration of the India-Pakistan War of 1965, in September 2015³¹ was one of the significant events which had helped rekindle the interest of the younger generations in the wars fought by India. However, in order to find long-term solutions, it becomes of the utmost importance to ensure that the issues related to archiving, classification, declassification, compilation and publishing of military histories and their inclusion in school/college curricula are addressed.

The process, policies and guidelines on archiving and declassification of historical records of the MoD and three Services need to be reviewed. The Indian armed forces too are bound by the Official Secrets Act of 1923 and its ongoing review could bring in changes in the way documents are classified and declassified in the armed forces. The new policies should ensure that unnecessary or overclassification is avoided. Classification should only be resorted to when absolutely necessary and declassification, as far as possible, should be made time-bound.

31. "1965 War Was Costly Misadventure of Pakistan: Vice President Hamid Ansari", *The Economic Times*, September 1, 2015, <http://economictimes.indiatimes.com/news/defence/1965-war-was-costly-misadventure-of-pakistan-vice-president-hamid-ansari/articleshow/48757737.cms>. Accessed on September 10, 2015

The review of guidelines for compilation of military/ war history should include composition of the team and timelines to facilitate accurate compilation and timely publishing of military/war histories. The compilation of the history of World War I and a holistic review of World War II history could be carried out to include the Indian perspective. The pending war/military histories need to be compiled and their publication expedited.

Shri K Shankar Bajpai,³² a former diplomat who was serving in the Indian Foreign Service during the India-Pakistan War of 1965, has aptly summed up the key lesson from the war as “what to expect from Pakistan”. The military/ war histories should be studied in greater detail by the government functionaries, strategic thinkers and military officers. The compilation of military histories should include operational aspects in greater detail for analysis and inclusion in the training institutions.

The relevant aspects of military histories need to be included in the curricula of schools and colleges, and military history could be made one of the subjects for studies in higher courses at the level of M Phil and PhD. This would ensure continuity in creating awareness and analysing past wars in greater detail.

The digitisation of existing records needs to be expedited and submission of records in digital format for archiving could be made mandatory to improve accessibility. The unclassified records of the armed forces could be shifted out of the defence headquarters security zones to facilitate easy access to the researchers and academicians.

The above recommendations could bring a transformation in the way Indian military histories are compiled and published, and improve accessibility for military historians, scholars and researchers. This will go a long way in improving understanding of wars, and circumstances, and in preparing India’s response to future contingencies.

32. K Shankar Bajpai, “1965, The Forgetting”, *The Indian Express*, September 9, 2015, <http://indianexpress.com/article/opinion/columns/1965-the-forgetting/>. Accessed on September 9, 2015.

ART OF HUMAN HACKING IN TIMES OF SOCIAL MEDIA: CASE STUDY – HONEY TRAP OPERATIONS

KRITI SINGH

*When one with honeyed words but evil mind
Persuades the mob, great woes befall the state.*

– Euripides, Orestes

Emotional manipulation is one of the strongest strategies employed to hack the human mind or heart. One instance of such manipulation, which has rocked the nation lately is that of defence personnel falling into the ‘honey trap’ maliciously designed by the enemy sitting across the border. Recently, the statement made by India’s Defence Minister, Manohar Parrikar (in the backdrop of the recent Pathankot attack), “The government is taking all measures to prevent military personnel falling prey to foreign intelligence agencies.”¹, reinforced the threat coming from one of the most amorous arts of deception and enticement, known as *honey trap operations*. Moreover, recent media reports have revealed that the enemy sitting across the border is unceasingly masterminding honey trap operations and this time

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1. Peri Dinakar, “Steps Being Taken to Prevent Honey Traps, Says Parrikar.” *The Hindu*. <http://www.thehindu.com/news/national/steps-being-taken-to-prevent-honey-trap-cases-parrikar/article8113591.ece>, January 17, 2016. Accessed on January 25, 2016.

using the social media platforms. Keeping in mind the aforesaid milieu, the objective of the paper is to analyse the honey trap operations in depth with special reference to the social media.

The term “social media” refers to the wide range of internet-based and mobile services that allow users to participate in online exchanges, contribute user-created content, or join online communities.² Social media are websites and other online means of communication that are used by large groups of people to share information and to develop social and professional contacts.³ Commonly known examples of social media are blogs, social network sites like Facebook, Twitter, etc., Wikis, virtual world content, media-sharing sites like YouTube, social bookmarking, etc.

Honey Traps: The term ‘honey trap’ refers to the use of a strategy which involves appealing and attractive people, equipped to deceive the target and acquire the desired objective, which can be getting a vital piece of information or an action. According to the *Encyclopedia of Cold War Espionage, Spies, and Secret Operations*, “A honey trap is an operation aiming to recruit agents to the secret service with threats to expose their romantic or illicit sensual intimacies and thereby wreck reputations; it is also a means of getting intelligence on foreign nations by using seducers instructed to inform about their customers.”⁴

HONEY TRAP OPERATIONS IN THE PAST

Prostitution and espionage are often referred to as the world’s two oldest professions. While this might seem simplistic, there is much based on truth. Historically, both women and men have used charm and charisma as tools for enticing and entrapping their vulnerable counterparts. In no other domain has this been more so than that of espionage and intelligence.⁵ The history of ‘honey traps’ also known as ‘honey pots’ is as old as the history of espionage and is considered

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2. Michael Dewing, “Social Media: An Introduction (In Brief).” Library of Parliament. <http://www.loppar.gc.ca/content/lop/researchpublications/2010-03-e.pdf>, November 20, 2012. Accessed on February 4, 2016.
 3. Social-media, Dictionary.com Unabridged, Random House, Inc. <http://dictionary.reference.com/browse/social-media>. Accessed on February 3, 2016.
 4. Richard C. S. Trahair, and Robert L. Miller. *Encyclopedia of Cold War Espionage, Spies, and Secret Operations* (New York: Enigma Books, 2013), p.159.
 5. James P. Welch, “Behind Closed Doors: Sex, Love and Espionage: The Honeytrap Phenomenon”, Graduate Program, American Military University, 2012, p.1.

as the most successful espionage tactic. Perhaps the earliest honey trap on record was the betrayal of Samson by Delilah, who revealed Samson's weakness (his hair) to the Philistines in exchange for 1,100 pieces of silver, as described in the *Book of Judges*. The practice continued into the 20th century and became a staple of Cold War spycraft.⁶ Honey trap is also mentioned in one of the thirty-six Chinese strategies or stratagems derived from military strategy: "*use a beauty to ensnare a man. The honey trap. Beauty trap.*"

In modern times, during World War I, Margaretha Gertruida Zelle, popularly known as Mata Hari, was an example of the femme fatale used in honey trap operations. Born on August 7, 1876, in Leeuwarden, Netherlands, Mata Hari was a professional dancer who accepted an assignment to spy for France in 1916. She was hired by army Captain Georges Ladoux, and agreed to pass military information gleaned from her conquests to the French government.⁷ She was arrested on February 13, 1917, in France, on the suspicion of being a double agent and later, put before the firing squad on October 15, 1917, on the charge by French and British intelligence that she was spying for Germany.

Subsequently, the history of the Cold War has numerous examples of how honey traps were extensively exploited against adversaries. The honey trap was a tactic that first gained notoriety during the Cold War as an effective way to elicit information. The basic principal is simple: manipulate a relationship in order to gain information.⁸ One of the noteworthy cases was the infamous "Profumo affair", which happened when the Cold War was at its peak. The ill-famed event, which happened during the 1960s, caused a grave security crisis in Britain, when it was revealed that British politician Brig John Dennis Profumo was having an illicit affair with a 19-year-old model, Christine Keeler. Keeler was also in relationship with the then Soviet senior naval attaché Captain Yevgeny Ivanov, which took the entire affair under the lens of national security. Profumo denied any breach of security due to his affair with Keeler, but, five decades later, Keller confessed that she

6. "Honey Traps: Intelligence Business Is the Oldest Profession...." *Passivevoices*, <https://passivevoices.wordpress.com/2012/09/12/honey-traps-intelligence-business-is-the-oldest-profession/>. Accessed on January 26, 2016.

7. "Mata Hari Biography," *Biography.com*. <http://www.biography.com/people/mata-hari-9402348#early-life>. Accessed on February 10, 2016.

8. "The Honey Trap." <http://coldwarespionage.weebly.com/the-honey-trap.html>. Accessed on February 12, 2016.

helped her osteopath Stephen Ward to uncover secrets about missile movements in the West that were later passed to the Soviets. In an interview, she claimed, that Ward used her first meeting with Profumo to steal secret letters from Profumo's briefcase, detailing the delivery of nuclear weapons to Germany.⁹ The illicit affair led to the resignation of John Profumo as secretary of state for war in 1963 and in the subsequent year, the government fell. During 1960, another notorious honey pot incident surfaced when a British diplomat to the USSR, Sir Geoffrey Wedgwood Harrison was lured into the trap of enticement set by KGB agent Galya, disguised as a chambermaid.

In 1986, another infamous honey trap surfaced when former Israeli nuclear technician Mordechai Vanunu was captured by the Israeli Mossad (Institute for Intelligence and Special Operations) via a honey trap operation. Mordechai Vanunu is also considered as a whistleblower. Back in the 1980s, Vanunu, while working as a technician at the Israel's Dimona nuclear plant, gathered enough evidence to prove that Israel possessed nuclear weapons. He took photographs of the nuclear facility and shared these with the British press, thus, blowing the Israeli nuclear deception and proving that Israel had enough fissile material to produce around 200 nuclear weapons. This was followed by Israel's reaction to bring him back from Britain, but without getting into direct confrontation with the UK. In order to accomplish the aforementioned objective, Israeli Mossad agent Cheryl Ben Tov, code name Cindy, was engaged. Vanunu was honey trapped by Cindy and was secretly smuggled back to Israel, where he later served a sentence of 18 years of incarceration, of which 11 years were in isolation. After being freed from jail in 2004, he is still under many restrictions. In 2015, he was again put under house arrest for giving a TV interview, which was in defiance of the terms under which he was released in 2004.¹⁰

In 2010, media news reported the revelation of a serial honey trap girl, Ekaterina Gerasimova also known as Katya, accused of trapping at least six influential Kremlin critics. Aimed at destroying their reputations, her victims included Russian radio journalist Viktor

9. "Profumo Affair: Christine Keeler Comes Clean and Admits to Being a Spy," <http://www.mirror.co.uk/news/uk-news/profumo-affair-christine-keeler-comes-1940402>. June 9, 2013. Accessed on February 10, 2016.

10. AFP, "Mordechai Vanunu Placed under House Arrest after Giving TV Interview," *The Guardian*, <http://www.theguardian.com/world/2015/sep/10/mordechai-vanunu-house-arrest-tv-interview-israel>, September 10, 2015. Accessed on February 11, 2016.

Shenderovich, politicians Alexander Potkin, Eduard Limonov, Ilya Yashin, Roman Dobrokhotov and editor of the Russian *Newsweek*, Mikhail Fishman.¹¹ Another case which came to light the same year was that of British politician, Michael Thomas Hancock, who was honey trapped by Russian national Katia Zatuliveter. As per the British intelligence agency MI-5, "Zatuliveter, 25, had built up a series of influential military and political contacts in Britain, America and Europe while working for the Liberal Democrat MP."¹²

In 2013, there was an infamous episode of 59-year-old US civilian defence contractor Benjamin Pierce Bishop, a Lieutenant Colonel in the US Army Reserve, who passed on classified information on US nuclear weaponry, missile defences, war plans, early warning radar systems and other critical issues, to a 27-year-old university student from China (alleged to have links with the Chinese government).¹³ In 2014, it was alleged that Russian citizen, Anna Vasil'yevna Chapman, who was arrested from New York on espionage charges, was directed to honey trap ex Central Intelligence Agency (CIA) whistleblower Edward Snowden. As per ex KGB agent Boris Karpichkov, the orders for the aforesaid trap came from the Kremlin.

No country is immune to this trap of enticement and India is no exception. In the past, the country has witnessed notorious honey-trapping incidents like the 1980s one involving a Research and Analysis Wing (RAW) agent K.V. Unnikrishnan, and in 2007; a senior intelligence officer of RAW who was recalled from Colombo after he became the target of a Chinese honey trap. Subsequently, in 2008, another senior intelligence officer from RAW was recalled from Beijing after he also fell for the Chinese honey trap; in 2009, a senior

11. Will Stewart, "The Serial Honeytrap Girl Accused of Trapping at Least Six Kremlin Critics in Online Stings," *DailyMail*, <http://www.dailymail.co.uk/news/article-1269496/Putin-critic-Viktor-Shenderovich-Katya-Gerasimova-honeytrap-sex-sting.html>, April 29, 2010. Accessed on February 12, 2016.

12. David Brown, Sam Coates, and Tony Halpin, "MI5 Had Been Watching MP Mike Hancock's Russian Aide for Months," *The Australian*, <http://www.theaustralian.com.au/news/world/mi5-had-been-watching-mp-mike-hancocks-russian-aide-for-months/story-e6frg6so-1225966294465>, December 6, 2010. Accessed on February 12, 2016.

13. AP, "Is She a Spy? Mystery of 27-year-old Enigma Chinese Student Who 'Caught' US Defense Contractor, 59, in Honeytrap to Get Classified Information," *Mailonline*, <http://www.dailymail.co.uk/news/article-2296517/Defense-contractor-Benjamin-Bishop-Is-Chinese-enigma-spy.html>, March 20, 2013. Accessed on February 13, 2016.

naval officer got caught in a Russian honey trap; and in 2011, a senior army officer posted in Bangladesh fell into a honey trap designed by Pakistan's Inter-Services Intelligence (ISI).

ISI HONEY TRAP: OBSERVATIONS AND LESSONS DRAWN

Lately, another honey trap operation, which came to light, was of the 30-year-old airman who became the latest target of the online "ISI honey trap" and passed on sensitive information to the enemy. In December 2015, a defence official was arrested from an air base in Punjab, during a joint operation conducted by the Delhi Police, Military Intelligence and the Indian Air Force's Liaisoning Unit (LU), and was dismissed, and subsequently booked under the Official Secrets Act and presented before the court. The investigation revealed that the official was honey trapped by a woman, who befriended him on FaceBook and introduced herself as a magazine scribe from the United Kingdom. However, later, after falling victim to the trap, the official leaked sensitive information, which was passed to the ISI.

The recent example of the defence personnel enticed into the honey trap to extract information, provides us a few lessons. Firstly, in order to entice the target, the social media FaceBook was extensively used. This episode again exposes the vulnerability of these social media platforms and how the enemy can disguise himself into an "innocent looking mediaperson seeking information for a magazine article." Secondly, it presents before us the peril of establishing contact with an "unverified source" and talking to a "mediaperson" without the requisite proper permission, thus, resulting in leakage of information. Thirdly, it reiterates the fact that any information, pertaining to a unit, troop movements, location, equipment, etc., is not something to be shared loosely on social media platforms. The basic principle of maintaining confidentiality of information needs to be followed. Fourthly, the incident also saw the usage of communication apparatus like Voice Over Internet Protocol-based calls, e-mails, internet-based text messaging services, etc. by the enemy. The advancement in technologies has made sophisticated equipment with simple operations very handy, which could be counter-productive if not used carefully. Investigations so far have revealed how Skype, WhatsApp, etc., were extensively used in exchange of information, in lieu of money and pleasure.

Key Factors Supporting the Success of Honey Traps

- **Meticulous Planning:** Before the trap of enticement is laid down, “an extensive research and meticulous planning” is done to zero onto the prime target. As per Paul Cornish, Professor at the Strategy and Security Institute at the University of Exeter, preparation work is “worth the effort”, as the intelligence procured can be “very significant.”¹⁴
- **Psychological Profiling of Target:** As per Professor Cornish, “two main psychological profiles are likely to be the targets of a honey trap: those in need of affection, and dominant characters who believe that rules don’t apply to them.” He further elaborates that “the beta characters” are “those who lack confidence, feel insecure, harbour grievances and need affection”, while a controlling alpha type might be a dominant player who thinks “he can calculate and manage risks better than anyone else.”¹⁵
- **Emotional Manipulations:** Another key element is to make the target believe that the relationship with the trapper is a genuine, long-term relationship. The trapper makes the target believe that they “met by chance”, is “not interested” in the target’s professional work and the relationship is “serious” in nature. Post the honey trap, it is difficult for the victims to believe that they were emotionally manipulated and used by the trapper to achieve the desired objective.
- **Element of Dangerous Female Spies:** The history of honey traps proves that female spies have an unchallenged role in honey traps. It’s not that men are not used to lure the target onto the trap, but women make better spies than men, because they are naturally gifted, with strong intuitive powers. The world has seen several women spies, and delicate cases which require cunning, skill and tact are usually entrusted to women.¹⁶

14. Olivia Goldhill, “How to Set a Honey Trap,” *Telegraph*, <http://www.telegraph.co.uk/women/womens-life/11102237/How-to-set-a-honey-trap.html>, September 17, 2010. Accessed on February 13, 2016.

15. *Ibid.*

16. Indrani Rajhowa Banerjee. “Hush...it’s a Honey Trap!” *The Times of India*, <http://timesofindia.indiatimes.com/life-style/people/Hush-its-a-honey-trap/articleshow/5925858.cms>, March 17, 2011. Accessed on February 13, 2016.

SOCIAL MEDIA AND HONEY TRAPPERS

The ancient art of enticement has become more deadly with the emergence of social media. Revisiting the 36 Chinese stratagems in today's scenario, stratagem 30, which is still applicable, advises, "Send your enemy beautiful women to cause discord within his camp." In contemporary computer parlance, this could refer to a honey pot, which lures visitors to a rigged site that collects information about them.¹⁷ There is no denying that communication technologies have changed our lives. Nevertheless, like every coin has two sides, these technologies also come with dual uses. It is a bitter truth that the emergence of the social media networking platforms, which have compressed the time and distance barrier, are proving to be a breeding ground for honey trap operations.

The penetration of this invisible web of honey traps is yet to be assessed. According to the Indian security agencies, "Inter-Services Intelligence (ISI) has been using social networking sites such as FaceBook and Twitter to honey trap unsuspecting Indian personnel by providing training to women on how to make explicit calls and chats, in a field traditionally dominated by men. The lure begins with friend's requests."¹⁸

While elaborating on the *modus operandi* adopted by the adversary, to trap defence personnel, a senior officer investigating the ISI spy network revealed, "The moment an officer discloses his online identity, he/she comes on the radar of spies who start following him on the virtual world....They (spies) also keep a track of their interest and hobbies to make a conversation and get friendly. Spies have created many a fake profile and identity on social media and use it according to their targets."¹⁹

Another trend, which has been exposed lately, is the abuse of social media by the enemy to trap veterans in the garb of providing job opportunities and financial aid. The Home Ministry has conveyed

17. Jeffrey Carr, "The Role of Cyber in Military Doctrine," in Mike Loukides, ed., *Insider Cyber War*, (California: O'Reilly, 2009), pp.161-178.

18. Shekhar Shashank, "ISI Laying Honeytraps on FaceBook and Twitter to Snare Indian Defence Personnel," *India Today*, <http://indiatoday.intoday.in/story/isi-laying-honeytraps-on-facebook-and-twitter-to-snare-indian-defence-personnel/1/561137.html>, January 3, 2016. Accessed on January 26, 2016.

19. *Ibid.*

that a fake organisation of ex-Servicemen was formed in north India, which promised job opportunities and financial assistance to the former soldiers. The promoters of the organisations even asked some former soldiers to get in touch with their serving colleagues and try to gather informations about field formation, raising suspicion among the ex-servicemen.²⁰

These incidents have exhibited how the adversary is manipulating, and capitalising on, the lethal side of social media. The bigger challenge lies in the fact that more than thousands of personnel working for defence and security establishments are somewhere directly and indirectly connected to social media. While revealing the level of training given to the honey trappers by the ISI, a senior official with the central security agency said, "Our investigation has revealed that ISI has set up a cyber wing equipped with modern technologies for massive online tracking. They are giving voice training to agents to appear more professional while dealing with defence personnel online."²¹

Besides manipulating social networking platforms like FaceBook, Twitter, LinkedIn, other techniques used in the online honey traps are:²²

- Spam e-mails coming via dating sites or matchmaking sites.
- Phishing attacks inviting targets to adult sites.
- Instant messaging applications like WhatsApp can be manipulated to reach the target.
- Junk e-mails and unsolicited online advertisements promoting dating sites or romantic messages, etc. are send to the target. Example: "Nigerian" spam.
- E-mails in the disguise of messages from prospective brides who are damsels in distress, for example, the "Russian" brides spam mails.

20. "MHA Alerts MoD on 'Spy Ring'," *Dailyexcelsior*, <http://www.dailyexcelsior.com/mha-alerts-mod-on-spy-ring/>. December 31, 2015. Accessed on January 26, 2016.

21. n.3.

22. Tatyana A Kulikova, "Honey Traps on the Internet," *Securelist*, <https://securelist.com/analysis/publications/36854/honey-traps-on-the-internet/>. February 14, 2013. Accessed on February 15, 2016.

Preventive Steps to Avoid Honey Traps

Advisory Needs to be Followed with Full Seriousness: In the wake of the recent honey trap incident, the defence organisation has issued the latest advisory. The following are the 10 do's and don'ts issued by the army for its personnel and their family members:²³

- Do not to use photographs in uniform on profiles.
- Photos with anything related to bases and weapons should not be posted online.
- Don't watch porn on social media.
- Do not click any advertisements announcing alluring prizes or awards on social media sites.
- Don't accept friend requests from strangers.
- Don't save any defence related information on computers.
- Don't reveal rank, battalion or place of posting.
- Don't upload/expose official identities.
- Don't share photographs with weapons or military photos as background photos.
- Family members, relatives shouldn't mention their profession on social media sites.

Additional prevention actions which need to be kept in mind while using the internet are: avoid visiting unknown dating sites, especially those advertised in spam; do not open e-mails from unknown senders; do not respond to e-mails if they seem suspicious; do not trust excessively generous or doubtful offers even if they are made by a pretty girl or a handsome man; and use reliable security solutions to protect your computer.²⁴

A fine line between professional and personal communication needs to be maintained. In this regard, sharing of any official communications on a social media platform should be totally avoided. Usage of applications which share location details on social media need to be avoided. One has to keep in mind the vulnerability of security to the social media application by breaching and snooping

23. India TV News Desk. "Army Issues Do's and Don'ts for Its Troops on Social Media." *India TV News*, <http://www.indiatvnews.com/news/india/army-issues-do-and-donts-for-its-troops-on-social-media-56814.html>, January 4, 2016. Accessed on February 15, 2016.

24. n.3.

by the enemy. Lastly, the success and failure of any trap, in general, and a honey trap, in particular, depends on how vigilant an individual remains. Self-discipline is the key.

CONCLUSION

The strategy of temptation has become easier and more lethal due to the growth of the social media. The threat is coming not only from Pakistan but also from China. Falling prey to the charms of spies and leaking sensitive information not only brings embarrassment to the nation but can also create a severe security crisis. History is full of examples that prove the lethality of this weapon of temptation. The traps still work in two ways: constructively and destructively (for the target). In the former (constructively), a target is milked for information or influence, for example, Sir Geoffrey Harrison. In the latter (destructively), the surgical destruction of a security target is highly probable, for example, Mordechai Vanunu.²⁵

Dutch Renaissance humanist and theologian, Desiderius Erasmus, once said, "Man's mind is so formed that it is far more susceptible to falsehood than to truth."²⁶ These words of the early 16th century theologian still hold ground in the 21st century. Despite being aware of the truth of how social media platforms can be exploited, we still fall in the trap of enticement. The recent examples reveal the lethal side of social media. The answer lies in remaining vigilant and selective about the information one shares on social media platforms, as India's Defence Minister, Manohar Parrikar noted, "Honey traps could be avoided by being alert."²⁷ One has to understand and practise the demarcation between personal and professional life and bear in mind the already framed guidelines and codes of conduct, while accessing social media platforms.

25. Simon Carr, "Why Do Men Still Fall for the Lure of the Honey-pot?" *Independent*. <http://www.independent.co.uk/news/uk/politics/why-do-men-still-fall-for-the-lure-of-the-honey-pot-2374275.html>, October 22, 2011. Accessed on February 16, 2016.

26. Desiderius Erasmus, "Desiderius Erasmus Quotes," Brainyquote. <http://www.brainyquote.com/quotes/quotes/d/desiderius148976.html>. Accessed on March 5, 2016.

27. Dinaker, n.1.