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2018**

'Air Strategy in Substantiating the Geo-Strategic Importance of Sri Lanka'



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FOREWORD



The Colombo Air Symposium (CAS), main scholarly event of the Sri Lanka Air Force provides an international forum for the military scholars, academics and strategists to share knowledge and experiences on the contemporary security concerns in the context of air power. Today the world air power is encountered with many a challenges in the realm of national security as well many other fermenting global concerns which are essential to be addressed in a bold and straightforward manner.

The thematic approach of CAS 2018, “Air Strategy in Substantiating the Geo-strategic Importance of Sri Lanka” highlighted the unique geographical location of Sri Lanka and the dynamic developments of present geopolitical context in the region. The Indian Ocean is the third largest ocean in the world that consists of 38 littoral states, 27 ocean territories and 17 interior countries provides the sea passage for more than 50% of the world’s containerized cargo and two thirds of the world’s hydrocarbon shipments. Although Sri Lanka is an island nation which is confined to a land area of 65,610 square kilometers and to a few islets which are merely embossed on the vast Indian Ocean, the country claims the close proximity to main sea lines of communication and marine transportation. The 200 nautical miles long Exclusive Economic Zone (EEZ) plus a 200 nautical miles long Exclusive Fishing Zone and the intensified economic activities in the Indian Ocean Region makes the island a “super-connector” in the Asia.

The contemporary geo-political cross currents active in the region compel the nations to restructure the conventional and orthodox international relationship models into more flexible and diplomatic mechanisms in order to create win-win situations for the each nation that involves. The non-aligned motives of Sri Lanka have established a tested base of goodwill between the country and the global powers as well the neighboring nations of Asia and Oceania. The country’s presence in the UN and negotiations on the conventions and laws related to global sea territories depict the positive approach of Sri Lanka towards coining collaborative solutions for a better future.

In the light of regional and global developments, the government of Sri Lanka has embarked on a mission to leverage the unique location of the country in the air and nautical corridor between the East and the West, and to transform it into an exclusive hub of economic action and a key transshipment port for the Bay of Bengal trade with maximized relationships with regional and extra regional players. On the other perspective, addressing the immersing critical issues such as; fighting piracy, counter-terrorism operations, providing safe passage for the trade lines among the

EU, IOR, littorals and Far East demand the highest priority of collaboration. The national air power of any state is no longer confined to the territorial skies and the waters of the country. The global requirements of a unified air power arise from multiple dimensions including the national security, combined counter terrorism operations, provision of emergency relief, safety and security of marine cargo, preparedness and first respondent responsibilities in managing disasters and the cooperative CASEVAC and MEDEVAC operations in crisis situations. The maritime security in the Indian Ocean, the role of the EU in the IOR, strategic maritime partnerships to develop collaborative approaches in the Indian Ocean, defence and security of the regional waters and the collective airpower are widely discussed and emphasized in many international dialogues.

The Colombo Air Symposium 2018 has made a remarkable academic ripple among the scholars and strategists from Australia, Bangladesh, India, Japan, Nepal, Pakistan Sri Lanka and USA on the Air Strategy in Substantiating the Geo-strategic Importance of Sri Lanka. The 12 research papers which are presented in this publication will definitely kindle a light for the keen military academic to broaden his or her horizons on the future role of air power in a global perspective.

KVB JAYAMPATHY WWV, RWP, RSP and three bars, VSV, USP, MSc (Int Rel), MMSc (Strat Stu-China), MIM (SL), fndu (China), qhi

Air Marshal

COMMANDER OF THE AIR FORCE

SRI LANKA AS A ‘AIR TASK FORCE HUB’ TO SECURE THE INDIAN OCEAN REGION

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ABSTRACT

At the present context, the Indian Ocean provides sail to some of the major trades for the international community. As a major transportation route, it has a major role in distribution of the Gulf oil to Asia, and as such represents the lifeline for the majority of Arab Gulf countries. A yearly trade that passes the New Silk Route, from the Strait of Hormuz to the Strait of Malacca, has been estimated at US\$18 trillion, roughly 17 million barrels, comprising one fifth of the world oil supplies pass through the Strait of Hormuz. Five of the largest world oil producers - including the United Arab Emirates (UAE) - use the narrow passage for most of their energy exports as well as moving of other goods constituting its re-export industry. At the same time the Gulf Cooperation Council (GCC) as a whole is the number one India and China's trading partner, with a two-way trade estimated at over \$150 billion per annum.

Geo-strategically situated in the center of the Indian Ocean, the importance of the island was understood by many world powers from history. During the Japanese invasion of Ceylon on 5 April 1942, Britain's Prime Minister Winston Churchill called it "the most dangerous moment of the second world war". This bears the importance of the island for any super power.

The rise of India and China as global economic powers has significantly increased their energy needs and their dependence on the Gulf oil supplies. Consequently, their energy security interests give these two Asian players direct stakes in the security and stability of Indian Ocean, in particular the safety of transit lines from the Arabian Gulf towards the east coast of the Arabian Sea and the Bay of Bengal which surround India's long coastal area. This has positioned India and China as major contenders for the share of the Ocean's dominion. For quite a long time the Indian Ocean has been largely dominated by the United States. With the sudden economic rise of both India and China in the past two decades, the division of world power has started to change from a unipolar towards a multipolar world

creating a geopolitical competition towards achieving the balance of power. This shift has brought the Indian Ocean back into the center of geopolitical attention and strategic gravity as a potential field of conflict for Asian domination.

Among the many fields of achievement of Sri Lanka throughout its exceptionally long and truly glorious history of over 2500 years, foreign policy was one in which it excelled and showed conspicuous ability. This record in fact began rather draw with the summit of the rapport between the mighty emperor Asoka and King DevanampiyaTissa of Sri Lanka and this tradition of Sri Lanka moving with the high and mighty and gaining their confidence has been one of the features of Sri Lankan diplomacy to which the Non-Aligned Summit in Colombo in 1976 bears witness. This diplomatic skill has been a continuing tradition from ancient to modern times reflecting an inborn flair among its rulers and its people.

With the Sri Lanka's Foreign policy of "friends to all enemy to none", the the diplomatic skills, the economic and military hard power of Sri Lanka should be combined to enhance the smart power capability of the nation in collaboration with regional actors to share and acquire technologies and knowledge of regional and extra regional actors to build up the regional security as well as the national security. Sri Lanka at the core of the region, can enhance the potential capability with the experience gained from the recent concluded 26 year old war against the Tamil Tiger Terrorists, to strengthen the country's economy.

The purpose of this research is to recognize and study the close co ordinations of key air and sea military assets of regional and extra regional military entities concerned towards Indian Ocean region in order to utilize their resources towards the elimination of asymmetric and transnational threats faced by the region. The anticipated outcome is to better the expertise, knowledge and skill of our own air and sea surveillance entities with the experiences gained by handling situations hand in hand with regional counterparts at large.

Keywords – Asymmetric Threats, Non-aligned, Balance of Power

Introduction

Indian Ocean covers almost 20 percent of the world's water. Its total area is about 68.556 million square kilometers and it is almost 5.5 times larger than the United States. The ocean total area includes Andaman Sea, Arabian Sea, Bay of Bengal, Flores Sea, Great Australian Bight, Gulf of Aden, Gulf of Oman, Java Sea, Mozambique Channel, Persian Gulf, Red Sea, Savu Sea, Strait of Malacca, Timor Sea, and other tributary water bodies. It also has several small island nations such as the Madagascar, The Seychelles, Reunion Island, Maldives, Mauritius and most importantly Sri Lanka.

Indian Ocean has gained tremendous importance over the years and has now become the most concerted area where global economic activity conjoined political interests. It is a home to world's busiest waterways and chokepoints such as the Suez Canal, Bab al- Mandeb, Strait of Hormuz and the Strait of Malacca. All these chokepoints and waterways are highly important for the rising nations of the world. This is why world's major economic as well as political concentration has shifted towards the Asian and African continents which border Indian Ocean at large. It includes following vital global shipping routes and choke points: (Qamar, Asma 2015)

1. Strait of Hormuz
2. Strait of Malacca
3. Bab-el-Mandeb
4. The Sunda and Lombok straits
5. Mozambique Channel
6. Ten Degree and Six Degree Channels

Whilst the situation persists as such, the identification the of asymmetric security threats prevailing in the Indian Ocean becomes utterly important. They are to be examined upon their causes and trends, as an essential first step to formulate measures to respond to these security challenges. The major non-traditional security threats in the Indian Ocean are identified and ranged from piracy and terrorism to various transnational crimes such as illicit trafficking of drugs, humans and weapons, maritime pollution and illegal fishing. These also include climate change, natural disasters and irregular migration.

It can be identified that the piracy and maritime terrorism are the most critical asymmetric threats in the Indian Ocean. The permissive environment, which exists within states and their territorial waters either due to corrupt political practices or under-funded law enforcement, supports the criminal infrastructure for piracy to flourish. Most of the vulnerabilities that have encouraged a higher rate of pirate attacks also apply to terrorism, including inadequate coastal surveillance, lack of port security, the overwhelming dependence of maritime trade on passage through congested chokepoints.

Although variety of facts are discussed vastly in international forums, to produce profound solutions to each threat concerned, it is imperative to remind the role played by the Sri Lankan armed forces in countering a unique non-traditional threat experienced in the IOR. In the Sri Lankan case, the significance of the Liberation Tigers of Tamil Eelam (LTTE) movement was their incorporation of the maritime domain into their armed resistance by extending their insurgency to sea and by establishing the Sea Tigers. In addition, the LTTE insurgents successfully challenged the maritime jurisdiction of the Sri Lanka Navy's authority over its own territorial waters and seriously threatened the local good order at sea in the broader context. At this point, the Sri Lanka Navy made radical and drastic changes to overwhelm the LTTE threat by sketching out the spectrum of roles that contemporary navies are engaging in the world's ocean. (Colombage 2015)



Figure: 2: Sri Lanka Navy Attacks on LTTE Ships
Source: www.globalsecurity.com

As far as the Sri Lanka's involvement is concerned to face the aforesaid asymmetric threats with the use of its unique experience, it is essential and apparent to mention that the outcome of the effort by its limited resources would be rather rudimentary. Hence, the unconditional cooperation of regional powers built upon the distinctive geographical advantage of the island of Sri Lanka becomes the absolute basis of this paper. The presence of India in terms of a regional power is considered along with significant extra regional powers such as USA, China, UK, France, Russia and Japan.

Based on the aforementioned context, the cooperation of foreign powers is identified not only for the role of security of the region but for the future enhancement of those competencies within the Sri Lankan armed forces as well. Further, with the use of existing resources and foreign presence, ultimate outcome is additionally recognized as the development of Sri Lanka as a nation state.

Statement of the Problem/Hypothesis

The enhancement of security aspect appears challenging without the collaboration of regional powers to counter traditional and non-traditional threats in the IOR.

Therefore, this paper is built upon the following hypothesis. “The close cooperation with the international powers present in the IOR would be the best course to enhance the maritime capabilities of Sri Lanka to counter traditional and non-traditional security threats”.

Methodology

In this research the researchers intend to carry out a qualitative research by gathering primary and secondary data through survey reports, post war analysis reports, research articles, publications, newspaper articles and online publications. As a whole, the contemporary scenario is thoroughly analyzed and the recommendations will be produced within the proposed context. Hence the paper is to be followed through an exploratory design perspective. The key objective of the paper is to identify the strategic advantage of cooperating with international powers in the region.

Collection of Data

Strategic Importance of the Indian Ocean - for India: Shaping India's Maritime Strategy: Opportunities & Challenges, Admiral Sureesh Mehta, Chief of Naval Staff, India, November 2005- “Sir Julian Corbett, the British maritime strategist who enunciated a diplomatic role for the navy wrote: - “Yes, it is true that the primary purpose of the fleet is to win the ‘Big Battle’. But in the meanwhile, the great dramatic moments in history have to be worked for, and the first pre-occupation of the fleet is to interfere with the enemy's military, economic and diplomatic purposes.”... During the long years of peace, we need to project power and show presence; catalyse partnerships through our maritime capability; build trust and create interoperability through joint operations and international maritime assistance. Occasions may arise when a state is required to use coercion to achieve national aims, and maritime power is best suited for a graduated escalation...The criticality of the sea-lanes from the Persian Gulf to the Straits of Malacca is evident from the fact that of the US\$ 200 billion worth of oil coming out of the Strait of Hormuz annually, US\$ 70 billion passes through the Straits of Malacca, mainly bound for China, Japan and South Korea. “

Strategic Importance of the Indian Ocean - for China : Anthony Paul - Asian Giants' Game of Chess in Indian Ocean, The Straits Times, 16 May 2007 - “Oil tankers, aircraft carriers, container ships crisscross the Indian Ocean daily –

and both China and India have a vested interest in open and secure sea lanes. As a result, both nations compete to two neighbouring nations throughout Africa and Asia: China has sent youth groups to Seychelles to volunteer and engineers to help Pakistan complete a deep sea port at Gwadar for accessing Iranian oil, while India patrols the coast of Mozambique and builds a monitoring station in Madagascar. In what he calls a game of “oceanic chess,” journalist Anthony Paul points out that India and China follow examples set by Europe and the US during previous centuries for pursuing military advantage. Nations looking on from the sidelines can’t help but wonder whether the mounting competition for strategic partners around the rim of the Indian Ocean, along with expectations that nations choose sides, will disrupt the region or provide lasting security.

Security issues for Indian Ocean coastline report by Claire Krol states that “The Indian Ocean is going to be the center stage for much of the geopolitical competition in the 21st century. We are seeing both India and China making increasing inroads into the Indian Ocean and while I am not predicting a direct military clash, there is going to be increasing contestation”.

British Presence in the IOR: In 1965, the British Indian Ocean Territory (BIOT) was formed out of individual groups of islands in the Western and Central Indian Ocean. In 1966, Diego Garcia (Group of Islands in the central Indian Ocean) was leased to US. The British Royal Navy however maintains a permanent presence in the Persian Gulf in the form of multinational forces, UN Peace-keeping mission etc. Diego Garcia function as a military base for both to the US and UK.

Economic Interests: the region is vital to UK being the source of about 40% of its oil supplies and an important supplier of non-ferrous metal imports. However there is no intention to maintain naval presence in the region though it is militarily supporting to the US policies in the region. (www.pervaizazghar.com)

French Presence in the IOR: France possesses a large number of strategically located islands in the Western Indian Ocean, the largest of these being Le Reunion and Mayotte islands. France maintains a sizeable force in the IOR, comprising of about 10,000 men and 20 warships.

Additionally, Djibouti is a major logistics base for French naval forces deployed from the Atlantic and Mediterranean commands. Owing to the islands, France considers herself to be a ‘regional’ power in the Indian Ocean.

Consequently, France is a member of the Indian Ocean Commission (IOC), an organization for regional cooperation, which includes Mauritius, Seychelles’ and Madagascar. France’s deep involvement in the Indian Ocean is also evident from her defence agreements with Republic of Djibouti, Comoros, Saudi Arabia, Qatar, Madagascar and Mauritius. (Maupin 2017)

Japan’s proactive role in IOR: Any form of presence in this region is a pre-requisite to Japan not only for its global status but also vital for its economic interests,

especially since the sub-region is the source and transit for its energy lifeline. Further Japan appears very concerned about China's domination over South China Sea.

Japan Maritime Self Defense Forces (JMSDF) is a large force which enforces a maritime control zone up to 1000 Nautical miles, thereby adequately addressing its security concerns and ensuring the protection of its EEZ assets. However, due to the constraint posed by the Japanese Constitution, it has been unable to assist the sub-region to secure the sea-lines against non-traditional threats. (Maupin 2017)

Importance of IOR for Russia: During Cold war, Previous USSR succeeded in gaining access to several bases in the IOR for forward basing and gathering intelligence. In fact, the number of Soviet bases and ships often exceeded those of US. Although it did have a lull (break) period post 1992-1993, Russia still enjoys diplomatic relations with most of the littorals (Members) in IOR. These relations have great potential for cooperation in high technology, oil and gas pipelines. The Indian Ocean Region is a vital link for Russia because it provides an all-weather route for Russia between her Eastern and Western provinces. Besides Russia has security and trading interests in the northern reaches of the Indian Ocean. It also wants to maintain bases in the IOR to be able to influence world opinion in its favor. (www.futuredirections.org.au)

Combined Naval Exercises in IOR: Operation Malabar and China's Reaction: Operation Malabar is a high-level trilateral exercise between the naval forces of India, the United States and Japan held in the Bay of Bengal as a part of the extended Malabar Exercises. Conducted since 1992 between India and the United States, Japan was invited to participate in these exercises in this region. Bilaterally, both the US and India have conducted exercises with Japan earlier. India and Japan conducted the first naval exercise in June 2012. All three navies, in addition to Singapore and Australia, joined the multilateral exercises of September 2007, but discontinued after China had issued a demarche. (www.rediff.com)

The three navies pitch aircraft carriers, latest destroyers, frigates and aircraft in the trilateral exercise for enhancing inter-operability between the forces. Tactical principles in overcoming certain scenarios will be practiced in these exercises indicating to their 'high-end' practices. Besides the motive of keeping the seas open, humanitarian assistance, disaster relief practices are also being tested in this accord.

Specifically, sustained efforts to counter piracy incidents in the Indian Ocean have been successful, but these incidents re-surfaced in the South China Sea. In 2014, for instance, according to the International Maritime Organisation statistics, nearly half the global piracy incidents erupted in the South China Sea, calling for attention of the stake-holders in the region.

While no country other than China had expressed reservations about the trilateral exercise, China's naval activities have come under sharp criticism from neighbours and others -- provoking Japan to pass 'collective self-defence' legislation recently.

Data Analysis

Elements of National Power and Balance of Power: With the increased number of key players competing to preserve their dominance in the IOR, elements of national power of a non-aligned state happens to be influenced by the balance of power in the particular region.

In considering balance of power, Hans Morgenthau is perhaps the most systematic of all modern theorists in this respect, and his approach has been followed by numerous other theorists since his work "Politics Among Nations" was first published in 1948. In describing the "elements of national power," he systematically includes and assesses geography, natural resources (especially food and raw materials), industrial capacity, military preparedness (especially technology, leadership, and quantity and quality of the armed forces), population (especially the distribution and trends), national character, national morale, and the quality of diplomacy and government, while warning against, among other things, efforts to attribute "to any single factor an overriding importance" in the measurement of power.

However, as far as the key world powers in a particular domain is concerned, according to Hans Morgenthau, there are four methods of balancing power; Divide and Rule, Territorial composition, Armaments, Alliances. Under Armaments, Hans Morgenthau states that "The principal means, however, by which a nation endeavors with the power at its disposal to maintain or re-establish the balance of power are armaments". The armaments race in which Nation A tries to keep up with and then to outdo the armaments of Nation B and vice versa is the typical instrumentality of an unstable, dynamic balance of power. The necessary corollary of the armaments race is a constantly increasing burden of military preparations devouring an ever greater portion of the national budget and making forever deepening fears, suspicions and insecurity (Morgenthau 1967). Therefore, it becomes rather challenging and an enduring mission for a weaker but strategically important state to establish an equilibrium between international influences and preserving national interests.

National and Regional Security:

In defining security, Barry Buzan states that, "Security is taken to be about the pursuit of freedom from threat and the ability of states and societies to maintain their independent identity and their functional integrity against forces of change, which they see as hostile. The bottom line of security is survival, but it also reasonably includes a substantial range of concerns about the conditions of existence." (Buzan 1991).

He further emphasizes that, "security is a relational phenomenon. Because security is relational, one cannot understand the national security of any given state without understanding the international pattern of security interdependence in which it is embedded."(Buzan 1983)

Therefore, regional security can be interpreted as a collective effort relational to all other parties present. “A group of states whose primary security concerns link together sufficiently closely that their national securities cannot realistically be considered apart from one another.”(Buzan 1983) This interpretation takes into consideration a security complex that is at odds as well as one that is unified under shared interests. Security complexes can be useful in terms of policy and they also provide a good framework to discuss issues that are endemic to any one region. If the solution can be found only from within the context of the complex, then the policy should be made from within this context as well.

Sri Lanka’s Foreign Policy towards the Regional and Extra-regional powers present in the IOR: At the present context, the IOR has developed in to a situation where Sri Lanka needs a carefully sought foreign policy to interact with the already established and emerging regional and extra-regional powers within the region. Recently, China has recognized its increased vulnerability in the IOR and taken actions to reduce its vulnerability by letting all stakeholders feel its presence over the region. As a result of China’s challenge to the US in the Pacific, the US is obviously concerned about a possible Chinese expansion in the Indian Ocean.

Further, when considered, regionally, India the strongest power among the Indian Ocean littoral states as well as several other states in the region. Japan, Australia and several other countries in the region and beyond are committed to a free maritime order in the Indian Ocean. This political interplay in the Indian Ocean is in danger of becoming a major center of tension. A power struggle in the Indian Ocean will no doubt also adversely affect Sri Lanka’s objective of becoming the hub of the Indian Ocean. Sri Lanka’s future prosperity depends on the stability of the Indian Ocean. (www.colombotelegraph.com)

Findings

Sri Lanka’s foreign Policy Strategy and Air Diplomacy: Sri Lanka has an important role to play in providing the space for discussions and consensus building on the freedom of navigation in the Indian Ocean and related issues such as maritime economy and environment and security. All stakeholders must participate in such an initiative.

As far as the foreign policy is concerned, with respect to the Sri Lanka Air Force, Air diplomacy is an effective way of defending vital national interests, building necessary partnerships, preventing conflict and expanding national influence without creating anti-national sentiment that often accompanies “boots on the ground”.

Although Air Force prepares (in peace time) to fight the nation’s wars, preventing wars is equally desirable. Air diplomacy differs from Air Force’s destructive capabilities in the same way that soft power differs from hard power. Using air power as a diplomatic means is an attractive option for building partnership, assuring allies and dissuading enemies. (Basic Doctrine of the Sri Lanka Air Force 2018).

Multinational Organisations to Ensure Maritime Security in the IOR:

Naval forces in the region are under pressure to modernise and to upgrade their capabilities to meet contemporary challenges. The division between high sea and constabulary roles is narrowing. Regional and extra-regional powers in the IOR have recognised the imperative of promoting cooperation between respective maritime forces to combat the new threats. A variety of naval forces such as naval warships, coast guards, marine police and commandos are being employed to ensure 'good order at sea'.

Combined Maritime Forces (CMF): Combined Maritime Forces (CMF) is a multi-national naval partnership, which exists to promote security, stability and prosperity across the heavily trafficked waters of the Middle East, Africa and South Asia, including the Red Sea, the Persian Gulf, the Gulf of Aden, Arabian Sea and the wider Indian Ocean which encompass some of the world's most important shipping lanes. CMF's main focus areas are defeating terrorism, preventing piracy, encouraging regional cooperation, and promoting a safe maritime environment. CMF counters violent extremism and terrorist networks in maritime areas of responsibility; works with regional and other partners to improve overall security and stability; helps strengthen regional nations' maritime capabilities and, when requested, responds to environmental and humanitarian crises.

- Comprised of three task forces: CTF 150 (maritime security and counter-terrorism), CTF 151 (counter piracy) and CTF 152 (Arabian Gulf security and cooperation).
- 31 member nations: Australia, Bahrain, Belgium, Canada, Denmark, France, Germany, Greece, Iraq, Italy, Japan, Jordan, Republic of Korea, Kuwait, Malaysia, the Netherlands, New Zealand, Norway, Pakistan, The Philippines, Portugal, Saudi Arabia, Seychelles, Singapore, Spain, Thailand, Turkey, UAE, United Kingdom, United States and Yemen.
- Commanded by a U.S. Navy Vice Admiral, who also serves as Commander US Navy Central Command and US Navy Fifth Fleet. All three commands are co-located at US Naval Support Activity Bahrain.
- The 31 nations that comprise CMF are not bound by either a political or military mandate. CMF is a flexible organisation. Contributions can vary from the provision of a liaison officer at CMF HQ in Bahrain to the supply of warships or support vessels in task forces, and maritime reconnaissance aircraft based on land. (www.combinedmaritimeforces.com)

Role of Small States with Significant Geopolitical Importance: Case of Djibouti - The Republic of Djibouti is a very small, young country with a landmass of 23,200 square kilometers between 430,000 and 840,000 people, and independence dating to 1977. Because of its position at the gateway to the Red Sea, Djibouti possesses an important geo-strategic location both next to the Arabian Peninsula

and on the shipping routes between the Mediterranean Sea and the Indian Ocean practically identical to the situation of Sri Lanka in Indian Ocean. (Brass 2007)



Figure 3: Geographical Location of the State of Djibouti

Source: www.sites.psu.edu

Djibouti lies on the Bab el-Mandeb Strait, a gateway to the Suez Canal, which is one of the world's busiest shipping routes. Djibouti also provides a vital port for landlocked neighbour Ethiopia, even more important now as a railway between both their capitals is completed. Chinese-led infrastructure projects - including the construction of air and maritime ports - are present here, just as they are elsewhere in Africa. But it is Djibouti's proximity to restive regions in Africa and the Middle East that makes it significant for the location of bases for the military superpowers.

Somalia, to the south-east, has been a hotbed of unrest for years, with sea pirates and Al-Shabab militants posing a serious threat to the region. Yemen, currently in conflict, is less than 20 miles north-east across the Bab-el-Mandeb Strait - also an easy pathway into the Middle East without having to be based there. These crises have warranted international responses and the need for military bases nearby. Djibouti hosts the largest American permanent military base in Africa, Camp Lemonnier, which is home to more than 4,000 personnel - mostly part of the Combined Joint Task Force - Horn of Africa. (www.bbc.com)

Even though France and Japan also launch operations from the Djibouti-Ambouli International Airport, China appears to have major ambitions in Djibouti. China recently deployed a 700-man force to protect its oil interests in South Sudan, showing it is keen to protect its \$200bn a year trade with Africa. This extends to warding off pirate attacks on the crucial trade routes between the Indian Ocean and the South China Sea.

The US pays \$63m annually in rent for its base and the Chinese bring in \$100m for theirs, in addition to their ongoing infrastructure projects so it is not difficult to see why Djibouti is looking past the rivalries of the global powers and enjoying its lucrative role as their landlord.

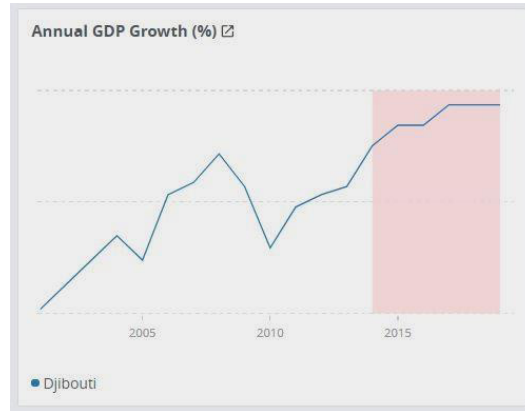


Figure 4: GDP Growth Rate State of Djibouti
Source: Worldbank data

Djibouti's economy is based on service activities connected with the country's strategic location as a deep-water port on the Red Sea. Mainly due to aforementioned military activities, the region appears secure and continuously monitored for illegal activities. The multi-purpose Port of Doraleh and the Port of Tadjourah become the center of attention which contributes to the state's economy at large scale.

Contemporary Scenario – Sri Lankan Perspective on IOR: As Sri Lanka was struggling as a nation to establish peace in the country for three decades, Indian Ocean Region was not in the list of its interests as a resource for all its worth. The prolonged war with the LTTE taught the nation few important lessons which ultimately highlighted the importance. On the contrary, the Chinese interest on the Indian Ocean region and Sri Lanka as potential bedrock for investments further emphasized this fact. The commercial shipping lines running below the island, mineral and fishing resources were brought on to the attention of Sri Lankan and foreign stakeholders reaching out for future development after the ethnic conflict.

In light of the regional and global developments, the government of Sri Lanka has embarked on a mission to leverage Sri Lanka's location in the nautical corridor between the east and west, and make it a hub of the Indian Ocean, as well as a key transshipment port for the Bay of Bengal trade. It aims to maximise relations with regional players such as China, Japan and India to encourage trade and foreign investments in Sri Lanka. Further, the availability of a fully-fledged harbour and an international airport closer to those international shipping routes gives promising features in order to strengthen the naval and aviation hub concept.

The Role of the Sri Lanka Air Force in the IOR: On a strategic point of view, derived from the National Policy, Sri Lanka is aimed to become the hub of Asia in the future. In this broad concept, the primary role of the SLAF at this juncture would be the protection of the safety of sea lanes. Due to the unique characteristics of Air Power, it gives a high level of rapidness and minimized collateral damages in securing the areas concerned using air assets. The utilisation of Air Power alone cannot achieve this task but the close collaboration with the Sri Lanka Navy is a prerequisite as well learnt during the latter part of the ethnic conflict.

This concept can be brought to reality by using the existing resources within the island. In order to provide fast access to sea lanes, a fully-fledged Air Base at Mattala Rajapakse International Airport and a Naval Base at Hambantota Port could be established to cater a hypothetical combined maritime security and search and rescue element comprised of several international powers in the IOR. This strategy might appear bold at first; nevertheless, introduction of the ideology to the intended countries must be done in such a way to arouse the attention of those countries but not to create political unrest.

Recommendations

Strengthening the capabilities of SLAF: With the above details it is imperative to note that securing the EEZ is legally bounded to the Sri Lanka military. As the nation's air power to secure the skies, it is undoubtedly foreseen that the Sri Lanka Air Force has an indirect impact in safeguarding the skies of Sri Lanka to strengthen the economy of the nation. The confidence that is given by the SLAF would safeguard the national waters and confidence to the regional countries. Therefore in order to build a noticeable confidence on regional powers regarding the capabilities of the SLAF, latest air assets must be inducted to the SLAF for surveillance and reconnaissance purposes.

Close coordination with the SL Navy: As per the Air Power Doctrine of the United States, securing the sea is cannot be carried out only by the nation's Air Force. It has to be a joint operation with naval power as well. Therefore, the SLAF has to co-ordinate such air operations with the Navy. The SLAF would be of a supporting role to the Navy. As the airpower has the ability of range and mobility, it would be of the first option of any nation to use airpower against its enemy.

Establishing ties with regional maritime security organisations: As a single nation, increasing the strength and capability is quite a daunting task. Further, securing the blue ocean cannot be carried out alone by one country. Therefore it should be a combined effort with regional countries and countries of interest. As there is a common interest in the Indian Ocean by many actors in the region, it is of best interest that the Sri Lankan government ties bonds with regional security forces such as "Combined Maritime Forces" comprising of 30 countries. This would increase ties between regional countries and in other ways would enhance the power of Sri Lanka forces.

Combined exercises with regional powers - Taking Singapore as a country from the Asian region trying to safeguard its economy by safeguarding its sea lanes, Sri Lanka should take steps such as Singapore to carry out combined exercises with regional countries to safeguard the sea lanes passing by Sri Lanka EEZ. SLAF should carry out combined exercise in collaboration with the Sri Lanka Navy and Sri Lanka Coast Guard. In carrying out exercise with foreign countries, the SLAF is capable of enhancing its technological expertise in carrying out reconnaissance missions, anti-shipping campaigns and as the SLAF has limited resources in carrying out search and rescue in a large sea area, the SLAF would be able to carry out combined exercises with foreign military to carryout joint exercise.

Enabling foreign presence in Sri Lanka – Taking Djibouti as an example, it is recommended that the Sri Lankan government should initiate enabling an establishment of multinational surveillance and reconnaissance center at the southern part of the country utilizing the available resources such as the Mattala Airport and HambantotaHarbour. This must be achieved to establish connections between all the stakeholders in the region purely for the aforementioned purposes by putting behind individual military or political agendas. A comprehensive operational framework is to be formulated by a team of experts in international affairs to generate a viable and foolproof agreement with each country.

Conclusion

As the Indian Ocean Region is as important it is for every nation present in the region, the political and military unrest is also lurking behind the shadows of international incidents in the same region. Between all that, Sri Lanka emerges as a country with strategic importance in the region in terms of geographical standing.

Therefore, in order to enhance its military's surveillance and reconnaissance capabilities, international cooperation must be addressed through careful integration. Hence it is emphasized at the conclusion that Sri Lanka stands as a potential base for a combined maritime surveillance and reconnaissance center providing the Sri Lankan military promising expectations on enhancing their capabilities.

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SRI LANKA: THE DRIVER'S SEAT OF THE INDIAN OCEAN

Air Commodore N Kapoor VM

Indian Air Force

ABSTRACT

The climate in this sub-continent is changing. It is coming on its own and becoming an area of interest for the entire world. Maximum international businesses is being conducted through the routes in indo pacific making the chances of conflict in the region very high. Sri Lanka, though comparatively small in size enjoys an enviable advantage due to its geographical location. It makes Sri Lankan air space and operations hugely important for this region. These operations include tasks such as Anti-Piracy operations, monitoring of aerial traffic at high seas, assistance to navies of involved countries and tackling non-traditional threats. The medium of air and space is considered best to monitor climate change catalyst and quickest to respond any disaster. Sri Lanka can be an important cog in the international wheel. Facilities such as Global Navigation Stations, Weather Monitoring of the Oceans and Humanitarian and Disaster relief in Sri Lanka can be set up with assistance from its neighbours. It will give Sri Lanka an opportunity to take the driver's seat in the region.

Introduction

The map that is shown to us in our growing years has a great bearing on our perception of the world. Similarly, the map that is displayed in our offices, besides being a reflection of our immediate tours of duty, is a reflection of our understanding of geo-politics. For a long period in modern history, and especially in the post cartographic era, the world concentrated on the European sub-continent and the Americas. Most of the action took place there and Europeans came in regular contact with Asians only after some traders to the Middle East came to know of lands far beyond with bountiful of riches. This was when the Romans established their control over Egypt and took over the ancient Egyptian trade route with India. Before this regular contact with the 'Orient', the only other contact had been when Alexander and Seleucus came face to face with rulers of Indian states in the present day territories of Pakistan and North West India.

Most maps of the middle ages show Europe at the centre. It is obviously because of all of the above and also because of the yeoman service that European discoverers did to mankind by mapping the world. However, even in those times, the importance of Africa and Asia was not lost by anybody. In fact many great voyages of discovery of these European adventurers started with the quest for the Indian sub-continent. It was not by chance that the colonial powers of yore fought wars to

keep great tracts of these areas under their control. The great game then was to keep coastal cities like Goa, Calicut, Kochi, Kannur, Colombo and Trincomalee under their control for their navies – for trade as well as for a hop – stop for sending the expeditions further. All island countries such as Madagascar, Mauritius, Maldives and Sri Lanka became very important in the trade link. They in fact became a veritable corridor of power. The great game then was not too different from the great game now.

What started from the coasts, soon travelled inland and long periods of colonisation followed for most littoral states of this route. The maps were changed and hitherto independent lands were shown as colonies, dominions and protectorates. Then, came the two World Wars and suddenly the colonial powers had to invest their times and energies elsewhere, leaving them with little or no resources to mind their extended territories or to contain their freedom movements. It was no wonder then that most countries around this area gained independence when the colonising countries lost their expeditionary appetite after World War II. By the time this happened however, most maps of this area had been altered forever. The artificial lines drawn on these maps were to remain the scars on the psyche of generations of denizens of this part of the world across many countries.

It has been almost three quarters of a century since then. Three quarters of a century is also approximately the life expectancy of an average human in this part of the world. It would be safe then to presume that the generations that saw their countries being ruled by another have passed into history. Most of the population that resides in this area was born in free countries. In their own ways the countries of the sub-continent have spent the past 75 years in laborious re-construction and consolidation. Now, after three quarters of a century of setting their houses in order, most of these countries have started looking outwards – for a regional outreach, some even for a global one. Once again, for more reasons than one, the area has come into limelight. There is one difference however. The map of the new world increasingly has started to show this region at its centre. It is, I believe, a reflection of the present day realities because zero degree longitude still lies far away from here.

The Indian Ocean Region and Sri Lanka

According to Robert Kaplan in his 2010 book titled *Monsoon*, ‘The Greater Indian Ocean Region, stretching eastward from the Horn of Africa, past the Arabian Peninsula, the Iranian Plateau and the Indian sub-continent, all the way to the Indonesian archipelago and beyond, would be the centre of global conflicts, because most international business would be conducted through this route’. As Robert Kaplan himself does in the book, I would tend to disagree with him partly. While in agreement with Kaplan’s appreciation of the geographical expanse of land, I do not believe that it must necessarily lead to conflict. I believe, that near the coastal town of Galle here in Sri Lanka, there is a stone tablet positioned by the Chinese Admiral Zheng He in the year 1410. I have read that it has an inscription in three languages – Chinese, Persian and Tamil in which he invokes the Hindu deities for a peaceful world built on trade. It can only be called as a remarkable piece of diplomacy and far sightedness. The Indian Ocean – and specifically the area mentioned by Robert Kaplan can be a zone of opportunities for all countries in the neighbourhood. For

now though, the region could be called volatile. It is surrounded by countries that are presently in or have faced recent tumult.

In this geographical span, in fact almost in its centre lies a beautifully pristine country, shaped as a drop of water and fondly called as the Jewel or the Pearl of the Indian Ocean. Sri Lanka is 437 km long and 225 km wide. As compared with some of the countries in its immediate neighbourhood Sri Lanka may be small in size but its location puts it in an enviable position. Sri Lanka commands an air space that is approximately 60 times its land size. To the East, Sri Lanka's air space is contiguous with that of Indonesia, to the South and East with Australia, to the South West with Maldives and to the North and North West with India. The airspaces of Mauritius and Myanmar are not too far away. As the country at the southern tip of Asia it is an important stop in the sea lanes of communication between the energy rich Middle East and the energy hungry populations of South East Asia and beyond. The sea lanes carry trade both ways. The reverse route carries finished goods and raw materials for the markets of the Middle East and Africa.

Importance of Sri Lankan Maritime and Air Spaces

As has been written earlier, these lanes were always important. The discovery of oil in the Middle East at the beginning of the last century only catapulted the importance of these sea lanes of communication to hitherto fore unknown heights. Given the sheer volume of trade that passes through his region, its security is a challenge as much as it is an absolute necessity. Historically, piracy in the Arabian Sea and the Indian Ocean at large was confined to the littoral spaces only. However, in the past decade, piracy on the high seas became a nuisance to the point that it took a huge collaborative effort to weed out the menace. While some countries worked as part of a unified force, others contributed in their independent capacity. Maritime and aerial forces were pooled into ensure the safety of trade ships and to monitor the channel for miscreants. Unfortunately, at the same time Sri Lanka was involved in rooting out the insurgents in its own country but should a situation arise in the future, Sri Lankan air space would become crucial to containment efforts. The safe exploitation of global commons in this area thus becomes a key area in which Sri Lankan air space would prove crucial in the future. The world has seen Sri Lankan willingness to contribute to the cause by its participation in most processes spearheaded by the United Nations. Sri Lankan Air Force's contribution to the missions in South Sudan and Central African Republic and Chad are notable and continuing.

Another episode that made the world realise the vastness of the area and the requirement for everyone to contribute was when the ill-fated Malaysian airliner MH 370 went missing. Once again the air space in question came into prominence and the requirement of regional cooperation was highlighted. Though the search was unsuccessful and one prays that such a requirement never presents itself again, the episode underlined two things prominently. Firstly, the vastness of the air space, the visibility gaps that exist and the need to monitor it effectively and secondly the requirement for all nations in the Indian Ocean littoral to come together for a shared cause since no single nation can possibly possess the resources to cover the air space single handed. It re-emphasises the requirement for all regional powers to come together.

Regional Security

Having resolved its internal strife for the benefit of its citizens, with its high Human Development Index, deep rooted democracy and stable internal condition, Sri Lanka today has the power to invite foreign investment on its own terms, while containing their direct influence on its policies. A stable and ever helpful neighbourhood also acts as a force multiplier in such a situation. My country – India and Sri Lanka have religious, cultural and societal ties that go back centuries if not millennia. In fact satellite images still show the umbilical cord that joins the two great nations. Together with other countries in the region, it is well within our capabilities to look after the security of global commons. The lead would be with the Navies for obvious reasons however, an aerial umbrella is a must in all contingencies and given the geography, the fastest means of connection between remote islands that dot the region. Lying as they do, in the centre of the said area, Sri Lankan maritime and air spaces are critical for the net security of global trade and energy.

The past few decades have also seen a jump in non-traditional threats emanating from the sea. There have been cases in the neighbourhood of Sri Lankan borders where terror has struck from the sea. In fact, in the most daring of attacks by non-traditional actors was the elected government of one of the countries and was held hostage by a group of lunatics who used the medium of the sea for transit. Sri Lanka itself has borne the brunt of many such dastardly acts on its own soil. All regional countries therefore would need to come together to share intelligence and take collective actions to ensure that each other's security is not endangered by these non-state actors. This might require the use of each other's maritime and air spaces.

Climate Change

Combating climate change is another area where the regional air space would prove vital. Whatever anyone might say, climate change is a fact and to the countries of this region it is a fact whose ill effects are staring them in the face. While the developed countries think about controlling the climate change inducing catalysts such as greenhouse gases, countries in this region have a greater concern at hand. This is to control the ill effects of climate change that have already started to manifest themselves on the populations. Bangladesh and Maldives immediately come to mind when one talks of this scenario. It is no news for anyone that the Maldivian government had started to scout for continental land to re-locate its population since the rising levels of the surrounding ocean. The threat from the surrounding oceans has not subsided but the brave Maldivians have decided to face it head on. The new plan is to reclaim land from the ocean and to create fresh islands with resilience to oceanic flooding.

Same is the case with Bangladesh. Nearly one third of Bangladesh is less than seven feet and two thirds of the country is less than fifteen feet above mean sea level. Most Bangladeshis' stay in these areas since the fertile alluvial soil is good for agriculture but year after year, cataclysmic natural events force greater numbers to shift inwards and away from the sea. As sea swells pushes saline water as much as fifty to sixty miles up the delta's river, more land is becoming infertile. This is likely to have a severe impact on a country which has otherwise shown great progress since independence in 1971.

The examples above just go to show that climate change is real and for all in the sub-continent, happening around them. The oceans around the Indian peninsula have arguably witnessed the greatest rise in temperature thereby adding to the frequency of extreme weather events. The recent flooding of the state of Kerala in India is just one case in point. Earlier on in this paper, I described Sri Lanka as being the southern tip of Asia. In the case of climate change however, it is the country at the apex of the confluence of three different seas or oceans. I take you back at how a map changes the way we look at things. Sri Lanka therefore has to have a huge say in mapping the oceans with its corresponding effects on the immediate neighbourhood. The UNESCO realises this and Sri Lanka has two sea level monitoring stations at Colombo and Trincomalee.

The medium of air and space is considered best to monitor climate change catalysts and assess their immediate and long term effects. With correct use of its resources Sri Lanka can actually turn this global threat into an opportunity. It can be of immense help to its smaller and more vulnerable neighbours in immediate terms while providing the necessary platforms and bases to global bodies to assess and implement long term mitigation strategies. With its own coast line of approximately 1500km Sri Lanka can become an example of resilience for the more vulnerable island nations in the world. The Maldives faced a grave humanitarian crisis in 2014 when its desalination facility at Male broke down, resulting in a huge drinking water crisis. While India sent in bottled drinking water by the ship load, Sri Lankan Air Force played its part by air lifting a critical component for the repair of the desalination facility from Singapore.

The Sri Lankan Air Force has started coming unto its own after the Sri Lankan armed forces successfully countered the insurgency to their North. Another notable contribution of the Sri Lankan Air Force came when it responded to the Nepal earthquake. A C-130 along with a contingent of the Sri Lankan Air Force deployed at Kathmandu bringing in much needed relief material. Other Sri Lankan aircraft also contributed to the process. This is indicative of the fact that given the right environment, a country with its internal dynamics in order and its neighbourhood at peace can find the spare capacity to be of use to the International community, even with meagre resources.

Even with its very limited resources at present, Sri Lanka can be an important cog in the international wheel. Facilities such as Global Navigation Stations, Weather Monitoring of the Oceans and Humanitarian and Disaster Relief in the neighbourhood can be set up with assistance from its neighbours. Thus with the investment of very little capital of its own, Sri Lanka and its air space can play host to instruments of monitoring and change in the neighbourhood. It would do all of us well to understand that the regional commons can be best utilised for the benefit of our populations in case we have convergence of regional interests. My country and Sri Lanka have a shared history and deep cultural, social and religious contacts going back many millennia. It is in the interest of both our countries that we let these common interests flourish. Both India and Sri Lanka are modern democracies with a largely educated and flourishing population, stable governments and a degree of self-assurance which comes with a standing in the global community. I am sure that we are in a position to ensure that we do not ever allow any outsider to draw boundaries on our respective maps especially since it has taken us almost a century to get our collective peoples out of the effects of the last colonisation.

STRATEGIZING SRI LANKA'S FOREIGN POLICY: THE SCOPE OF AIR DIPLOMACY

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ABSTRACT

In an interview in 1927, Paul Claudel, the new French Ambassador to Washington in reference to his appointment noted that “my task will be facilitated by the air and popular diplomacy admirably initiated by the American airmen, who haven't even realized their apostolate.” Air Diplomacy was born during E. H. Carr's ‘Twenty Years' Crisis’, but neither Claudel nor Carr realized the manner in which air travel would revolutionize the entire spectrum of connectivity that had been hitherto known to humans.

Nearly a century later advancements in technology enhanced air travel, which contributed to the rapid pace at which nation-states became enmeshed in the concept of, and thereby gave credence to, globalization. Improved and safe travel propelled industry, commerce and changed the persona of diplomacy. The role of the diplomat was transformed. Leaders themselves engaged directly thereby forcing the diplomat into a new position of contact between states. The transformation called for the adaptation of the diplomat to the new role of strategic advisor which many countries and professionals still grapple to understand. The changing environment saw the evolution of New Diplomacy, as we identify the sphere in modern times.

In the post Second World War era with the heightening of the Cold War and emphasis on building stronger militaries and enhancing military capabilities, air power began to supersede naval power. While in earlier centuries states attached great importance to naval power as evidenced through the building of the Chinese Navy, Spanish Armada, Royal Navy and the Japanese Imperial Navy among others, it is to air power that states turned in the twentieth century. Rapid advancements enabled faster movement, flexibility and swifter attacks, especially in relation to aerial strikes.

Conflict is not the sole aspect of air power. A century ago, as highlighted by Claudel, states were discovering the opportunities that improvements in connectivity would provide, and their Forces were exploring the potential of humanitarian operations, wherein the transportation of goods and services, assisting in rescue missions, conducting evacuations and supporting ground troops, became an integral component of air power. States thereby amass air power leading to superiority, which translates into an effective tool for diplomatic engagement.

Hitler believed that “when diplomacy ends, wars begin,” a strong view that he eventually put into practice. It is evident that diplomacy and all aspects of the sphere are used by states in the formulation and implementation of Foreign Policy.

With a wider scope and deeper reach, the dividends are richer and greater. Foreign Policy today is enriched through multifaceted approaches, and states are striving to evolve with developments in a plethora of fields. Amidst these varied approaches is that of Air Diplomacy. As a thematic area, and more importantly, a policy option, the study of Air Diplomacy, its relevance and potential reveals its use today by states to enhance engagement and display military might.

Sri Lanka, as an island, possesses the ability to connect with the world by air and sea. Though identified as avenues of opportunity, the high seas and air space have also been the medium through which Sri Lanka's sovereignty has been violated and maybe argued continues to be violated, especially in reference to the seas. Yet enhancing air connectivity remains critical to propel the nation deeper into the twenty first century. Thus of significance is the opportunity to be accrued by adopting a policy of Air Diplomacy, as an integral component of Foreign Policy, which this paper would strive to detail and analyse. Incorporating such a dimension into Foreign Policy would provide the impetus to promote Sri Lanka's interconnectedness primarily in the region and thereafter in key strategic locations in South East Asia, East Asia, West Asia, Central Asia, Africa and Europe.

Air Diplomacy, if practiced as a concerted policy would chiefly enable the Sri Lanka Air Force (SLAF) to increase connectivity with other Forces in the region, improve relations with the aforementioned strategic locations, ensure opportunities of reach into new spheres, such as regional and international search and rescue operations, and carve an identity for the Force to be recognised. It would result in Sri Lanka harnessing location and geopolitical importance to boost the economy, augment the development drive, and strategize international engagement. The island's location has long been touted as one of its greatest assets, but its utilization to its fullest potential is yet to be realized. Similarly the geopolitical importance of the Indian Ocean, and its rising relevance in global trade and contact, could boost the aviation arena.

This paper would examine the concept of Air Diplomacy, and the means by which it could be incorporated into Sri Lanka's Foreign Policy. Further reference would be made to case studies in which the usage of Air Diplomacy supported the state's ability to enhance its international interaction whilst accruing beneficial dividends to the state. The military component of the study would examine the means by which the SLAF could contribute to the implementation of a policy of Air Diplomacy and study the role of academia in creating a neutral platform from which militaries would be able to engage.

The paper goes beyond the prescribed formula wherein large and powerful states use Air Power and Air Diplomacy to bolster their military might. Instead being examined is the potential of an island state to adopt an effective Air Diplomacy policy that would enable decision makers to strategize Foreign Policy, ensure greater connectivity and guarantee a higher degree of influence in regional and global affairs. It is argued that the building of a nexus between and among militaries would auger well, as levels of cooperation and confidence would be boosted. The contributory role of academia in the pursuit of this policy generates a triangle in which the military and academia work jointly to identify areas and mechanisms for implementation, and reach out collectively to influence foreign policy formulators.

With the completion of seven decades since the granting of independence, Sri Lanka stands at a cross road of harnessing the opportunity of peace and racing into the future to compete with nations in the region and beyond, or of vacillating over indecision, corruption and crime. The conflict is a near decade into history. The time is ripe for challenging and critical planning, innovative and ingenious action, and most importantly succinct strategizing for the future. Air Diplomacy could play a significant role in strategizing Sri Lanka's Foreign Policy.

Key Words: Air Diplomacy, Air Force, Military, Foreign Policy

Introduction

Sri Lanka has remained one of the most globally connected countries. Whilst expeditions were dispatched to the Roman Empire in some of the first international interactions, special envoys continued to traverse the world over the centuries. Likewise Sri Lanka attracted many traders and conquerors owing to resources and location. Numerous calls have been made to make Sri Lanka a hub in the Indian Ocean, but often islanders fail to realize that Sri Lanka was a hub of strategic importance. Traders from China, the Arab world, as well as the Portuguese, Dutch and British all found the island to be of considered importance and sought to control it to their benefit at varied periods. Making the island a hub is therefore not a new policy but one which needs to be revived.

A Foreign Policy that is strategic and effective remains the most crucial tool in the armoury of Sri Lanka's diplomatic engagement and the means by which the island would be able to stride the global stage, maneuver international issues and overcome critical challenges in the 21st century. Amidst fresh developments regionally and internationally, Sri Lanka is often provided with opportunities that require innovative action which at times, steers away from the traditional modes of operation to exploring new avenues for building cooperation and increasing potential. More importantly, the need to strategize Foreign Policy becomes crucial, if the country is to move from being constantly on the defensive to adopting a more proactive stance in global affairs.

Reflection on that which has been becomes highly relevant at this juncture. Whether in terms of research or policy planning, foreign policy formulation needs the utmost attention given the international ramifications of each and every step taken. Today Sri Lanka is a member, dialogue partner and observer of numerous organizations and groupings, yet the amount of leverage the country enjoys internationally, as a result of such affiliations, leaves much to be desired. For too long the island has remained static owing to developments within, but now with the conflict a near decade into history, it is time the country surges ahead, but it would only be able to do so with strategy, which it tends to lack at the most crucial of times.

Identifying national interest remains at the core of decision making. Whether in negotiations over bilateral issues, staking a claim at the United Nations or through the plethora of multilateral platforms that Sri Lanka sits at, the prospect of going in with an agenda for success, rather than merely marking attendance, needs to

top the list of priorities. Security remains critical, from defence of the island from outside interference; cyber-attacks; protecting the air and maritime boundaries and resources; preserving peace, law and order within the island; ensuring a healthy population; securing sufficient food; avoiding economic downturns; promoting investment while protecting the environment. All of these dimensions of security are paramount for a country going forward.

Sri Lanka possesses the ability to connect with the world by air and sea. Though identified as avenues of opportunity, the high seas and air space have also been the medium through which Sri Lanka's sovereignty has been violated and maybe argued continues to be violated, especially in reference to the seas. Yet enhancing air connectivity remains critical to propel the nation forward. Thus of significance is the opportunity to be accrued by adopting a policy of Air Diplomacy, as an integral component of Foreign Policy, which this paper would strive to detail and analyse. Incorporating such a dimension into Foreign Policy would provide the impetus to promote Sri Lanka's interconnectedness primarily in the region and thereafter in key strategic locations in South East Asia, East Asia, West Asia, Central Asia, Africa and Europe.

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Comprehending Air Diplomacy

In an interview in 1927, Paul Claudel, (1927) the new French Ambassador to Washington in reference to his appointment noted that "my task will be facilitated by the air and popular diplomacy admirably initiated by the American airmen, who haven't even realized their apostolate." Air Diplomacy was born during E. H. Carr's 'Twenty Years' Crisis', but neither Claudel nor Carr realized the manner in which air travel would revolutionize the entire spectrum of connectivity that had been hitherto known to humans.

Nearly a century later advancements in technology enhanced air travel, which contributed to the rapid pace at which nation-states became enmeshed in the

concept of, and thereby gave credence to, globalization. Improved and safe travel propelled industry, commerce and changed the persona of diplomacy. The role of the diplomat was transformed. Leaders themselves engaged directly thereby forcing the diplomat into a new position of contact between states. The transformation called for the adaptation of the diplomat to the new role of strategic advisor which many countries and professionals still grapple to understand. The changing environment saw the evolution of New Diplomacy, as we identify the sphere in modern times.

The air connectivity also led to the enhancement of military contact, and it has been considered to be a highly effective form of attack or retaliation. While the First World War had seen sporadic air attacks which accounted for some 1,400 deaths in Britain due to aerial bombardments, as opposed to the 57,000 men who died on just the first day of battle at Somme in 1916, air attacks were not as sophisticated as they are today or have been for the past several decades. From the infamous blitzkrieg over London, to the attack on Pearl Harbour, the usage of planes to drop nuclear bombs over Nagasaki and Hiroshima, their role in the Vietnam war, and their usage in other countries including Cambodia, Indonesia and Bangladesh, and in the last two decades across the West Asia and stretching into Afghanistan and Pakistan, the consequences of the air power are viewed negatively in much of the world, given the ramifications of death and destruction it leaves in its wake.

It was in the post Second World War era with the heightening of the Cold War and emphasis on building stronger militaries and enhancing military capabilities, that air power began to supersede naval power. While in earlier centuries states attached great importance to naval power as evidenced through the building of the Chinese Navy, Spanish Armada, Royal Navy and the Japanese Imperial Navy among others, it is to air power that states turned in the twentieth century. Rapid advancements enabled faster movement, flexibility and swifter attacks, especially in relation to aerial strikes.

Conflict is not the sole aspect of air power. A century ago, as highlighted by Claudel, states were discovering the opportunities that improvements in connectivity would provide, and their Forces were exploring the potential of humanitarian operations, wherein the transportation of goods and services, assisting in rescue missions, conducting evacuations and supporting ground troops, became an integral component of air power. States thereby amass air power leading to superiority, which translates into an effective tool for diplomatic engagement.

Hitler believed that “when diplomacy ends, wars begin,” a strong view that he eventually put into practice. It is evident that diplomacy and all aspects of the sphere are used by states in the formulation and implementation of Foreign Policy. With a wider scope and deeper reach, the dividends are richer and greater. Foreign Policy today is enriched through multifaceted approaches, and states are striving to evolve with developments in a plethora of fields. Amidst these varied approaches is that of Air Diplomacy. As a thematic area, and more importantly, a policy option, the study of Air Diplomacy, its relevance and potential reveals its use today by states to enhance engagement and display military might.

Hence it is understood that Air Power has the potential to wreck havoc and generate widespread destruction through its usage in military campaigns. Yet the significance of Air Power and its connectivity to Diplomacy becomes highly relevant in an era in which although military power is used for battle, it is also used for

peace keeping missions. Similarly Air Power, maybe be used for the achievement of stability, ensure security and the enhancement of relations in the international sphere.

Air Diplomacy if practiced as a concerted policy would chiefly enable the Ministry of Foreign Affairs to bolster ties with countries, particularly in the region, and also with those which similarly focus on this sphere. It would also enable the SLAF to increase connectivity with other Forces in the region, improve relations with the aforementioned strategic locations, ensure opportunities of reach into new spheres, such as regional and international search and rescue operations, and carve an identity for the Force to be recognised. It would result in Sri Lanka harnessing location and geopolitical importance to boost the economy, augment the development drive, and strategize international engagement. The island's location has long been touted as one of its greatest assets, but its utilization to its fullest potential is yet to be realized. Similarly the geopolitical importance of the Indian Ocean, and its rising relevance in global trade and contact, could boost the aviation arena.

General de Gaulle (1960) highlighted the connection between diplomacy and the use of armed forces, wherein he identified that diplomacy had three levers: "Diplomacy expresses it, armed forces support it, and the police cover it." Lespinois (2012) derives therefrom that "Air diplomacy could be defined as the use of air assets to support foreign policy." This support can have manifold repercussions as it could describe a country's aviation policy and the means by which it would strive to exhibit its technical and economic supremacy. It would also indicate that countries with greater degrees of power would be able to enforce stronger positions in Air Diplomacy. De La Rochère (1997), examining the incorporation of power into diplomacy, identifies the heavy handedness of the United States in imposing its own opinion of how public international law should be enforced in civil aviation. Similar developments occurred at international conferences, she argues, particularly the Chicago Convention on International Civil Aviation in 1944, and the Bermuda Agreement two years later. However this paper while examining the concept of Air Diplomacy, and the means by which it could be incorporated into Sri Lanka's Foreign Policy, focuses on the military component of Air Diplomacy.

Implementing Air Diplomacy: Role of the Military

Seventy years ago air connectivity was to play a critical role in the first crisis of the Cold War. With the Soviet decision to block access to Berlin the eruption of the Berlin Blockade from 24th June 1948 to 11th May 1949 Cold War tensions were to reach a heightened situation as former Allied powers sought wars to avoid confrontation. It severely tested the peace that prevailed, and enabled a blockade stricken people to survive for nearly a year, but also provided a new dimension to air power and its usage.

The United States Air Force and the British Royal Air Force flew more than 200, 000 flights into Berlin taking with them in excess of 13, 000 tonnes of food supplies on a daily basis. Creating a coalition of support for Berlin, aircrews from Australia, Canada, New Zealand, and South Africa joined the effort to support the American and British forces. The success of Operation Vittles and Operation Plainfare so named by the Americans and British respectively, was evident when more good and supplies were arriving in Berlin than had been supplied earlier via the rail route.

Commemorated annually, the success of the main airlift was bolstered by other initiatives such as Operation Little Vittles, through which chocolates attached to little parachutes were dropped promoting goodwill among the German people, towards the forces that were intervening to assist them. The cooperative measures adopted by various militaries saw Western powers realize the need to remain united and support the West German government in the face of Soviet aggression. Parallel to the airlift America led efforts along with other key western nations to establish the North Atlantic Treaty Organization (NATO) and the Marshall Plan began to play a decisive role in European affairs.

Two and a half decades later in 1973, when Egypt and Syria attacked Israel starting the Yom Kippur War, the United States Air Force launched Operation Nickel Grass to assist their strong ally. The surprise attack resulted in loss of key ammunition ranging from tanks to aircraft in Israel but the Americans were instantly prepared to replace the losses incurred with Kissinger assuring Israeli Ambassador Dinitz that “The President has agreed that all your aircraft and tank losses will be replaced.”

The airlifting of ammunition, including the provision of new aircrafts contributed heavily to consolidating the already strong bonds between the two countries. The intervention by the United States enabled Israel to survive the coordinated attack and restored a balance of power given the Soviet support extended to Egypt and Syria. It also came at a time when Israeli Prime Minister Golda Meir was threatening to use nuclear weapons to counter the attacks from her adversaries.

Portugal’s decision to grant landing facilities in the autonomous region of Azores, when most traditional European allies refused cooperation, improved diplomatic connectivity. Connectivity originated when Portugal become the first neutral state to establish diplomatic relations with the United States following the Revolutionary War of Independence. Developments during Operation Nickel Grass also made American forces realize the need to improve staging bases overseas, which was identified as a severe deficiency.

The Operation was yet another instance in which Air Diplomacy engaged in by the United States, Israel, and with the support of Portugal, resulted in the thwarting of attempts to generate instability. Meir acknowledged the action noting that “for generations to come, all will be told of the miracle of the immense planes from the United States bringing in material that meant life for our people.” (Boyne, 1998)

When the capital of Bosnia-Herzegovina was under siege it was timely air interventions that saved lives. From July 1992 to January 1996, the UN led humanitarian operation, named Air Bridge, ensured the supply of more than 160, 000 metric tonnes of aid, including food, medicine, equipment and other supplies to Sarajevo. With twenty countries providing aircrafts and facilities, and the support of numerous international organizations, the operation was able to provide more than 85 percent of all aid reaching the capital.

At the time of the conclusion of the operation in January 1996, United Nations High Commissioner for Refugees, Sadako Ogata observed that “for the past three-and-a-half years, the airlift has been Sarajevo’s lifeline and a constant reminder to the hundreds of thousands of brave residents of the city that they were not forgotten. Without a doubt, the airlift saved tens of thousands of people and kept

the city alive through three winters of war.” (UNHCR, 1996) The concerted effort of all these countries and organisations under the leadership of the United Nations resulted in the continued supply of essential items, which saw the people of Sarajevo through a turbulent period of their history.

Whilst the United States has played a pivotal role in many airlifts in the course of the last century, Israel has displayed significant involvement in such operations as evidenced in Operation Moses, wherein 8, 000 Ethiopians were airlifted from Sudan to Israel over seven weeks from November 1984 to January 1985. Thereafter in 1991, Operation Solomon saw the airlifting of more than 14, 000 Ethiopian Jews to Israel in just 36 hours. Earlier Operation Yachin from 1961 to 1964 saw an exodus of 97, 000 Moroccan Jews by plane and ship, although Operation Ezra and Nehemiah from 1951 to 1952 had been on a larger scale with between 120, 000 and 130, 000 Iraqi Jews airlifted from Iraq in a hugely significant exodus of the Jewish community from countries in West Asia. Operation Magic Carpet between June 1949 and September 1950 resulted in the evacuation of 49, 000 Yemenite Jews to Israel and had been carried out by 380 flights by British and American transport planes.

Irrespective of the country involved, the number of tonnes of relief supplies or even the number of people that were evacuated, such airlift operations carried out for most of the second half of the last century saw heavy reliance on air connectivity. The usage of Air Diplomacy supported the state’s ability to enhance its international interaction whilst accruing beneficial dividends to the states involved.

Constructing an Innovative Air Diplomacy Policy

While the case studies cited in this paper refer to countries with defence budgets that even exceed \$600 billion, in the case of the United States, and extensive influence as with the United States and Israel, it is possible to innovate in this arena. Sri Lanka played a monumental role in the 1950’s in the build up to the establishment of the Non-Aligned Movement and went on to chair the grouping from 1976 to 1979, chaired the Security Council and General Assembly of the United Nations, chaired the South Asian Association for Regional Cooperation (SAARC) thrice, served as Chair-in-Office of the Commonwealth and has now been handed over the chair of Bay of Bengal Initiative for Multisectoral Technical and Economic Cooperation (BIMSTEC). Opportunities abound, the usage of such openings remain the challenge the country is yet to overcome.

The adoption of an innovative Air Diplomacy policy needs to be rationalized on two levels, with two categories at each level. This could be done primarily in the bilateral sphere whereby Sri Lanka utilizes her strong bilateral connections with strategic countries in the region and beyond, and secondly at the international level, whereby Sri Lanka plays a vigorous role in redefining defence cooperation through Air Diplomacy. Both levels provide the country and the SLAF with the opportunity of branching out and generating another platform for cooperation which would augur for the state in the long run.

The bilateral level would need to be examined in two categories. Sri Lanka purchases ammunition, equipment, aircraft, vessels etc from particular countries. These are countries of strategic importance and it is vital to develop closer relations with them. This could be in varied forms, such as structured joint sessions between

the militaries, and in particular with the Air Forces of the respective countries. Adopting a similar format as the Joint Sessions between countries at the political level, the Air Force interface would lead to deeper understanding, better cooperation and stronger connectivity, especially at times of need. It could also evolve into and include the conducting of joint drills between the Air Forces, which would result in the sharing of technology and expertise.

The second category at the bilateral level would be with countries of strategic importance in the global arena. Whilst a similar model of structured sessions and joint drills maybe adopted, the second tier would give Sri Lanka the opportunity of reaching beyond the usual remit of connectivity and improve bilateral relations in the process.

Multilateral engagement forms the second level whereby the bilateral connectivity could, in time, be merged with a regional conclave of Air Force Chiefs, which is absent from SAARC at present. Whilst attempting to establish a SAARC Air Force Chief's Conference seems too early to explore, given the current stalemate in political relations among South Asian countries, Sri Lanka could instead look at playing a catalytic role of bringing Indian Ocean Rim Association (IORA) countries together by proposing an Air Force Chief's Conclave amongst the 21 member states and 7 dialogue partners. Whilst this could be examined within the framework of existing groupings, whereby Sri Lanka proposes the establishment of such fora even in groupings such as BIMSTEC and the Commonwealth, where the use of Air Diplomacy would greatly enhance security cooperation. Further engagement in the Shanghai Cooperation Organisation (SCO), wherein Sri Lanka is a dialogue partner at present, could see the country seeking deeper engagement, even actively campaigning for full membership, while articulating the contribution, especially in the area of counter terrorism that the country would be able to make, and gaining through collaboration with other member states and dialogue partners of the SCO.

The second category at the multilateral level would see Sri Lanka explore new areas of air connectivity through the creation of a 'Shangri la Dialogue' model, which could be implemented for purposes of Air Diplomacy. This platform would generate immense opportunities for the Air Chiefs of specific countries to converge each year in a bid to discuss military aviation issues, multilateral cooperation, enhance regional security as well as improve humanitarian assistance and relief efforts. The conclave would also serve as a hub for the sharing of information on suspicious air activity, response to terror threats, and measures that could be adopted to thwart such activity and threats.

Preserving and promoting National Interest: Why Air Diplomacy is essential

Whether at the bilateral or multilateral levels and within the specified categories of these two levels, the formulation of an effective Foreign Policy is at the core of national interest. The protection and promotion of national interest, while within the mandate of the state, could be implemented through innovative measures. The adoption of an Air Diplomacy policy, which would be implemented chiefly by the Ministry of Foreign Affairs, Ministry of Defence, Sri Lanka Air Force and with the involvement of academia, would see Sri Lanka gain immensely through all that has been hitherto described.

The potential of the island to adopt such an effective Air Diplomacy policy would enable decision makers to strategize Foreign Policy, ensure greater connectivity and guarantee a higher degree of influence in regional and global affairs. It is argued that the building of a nexus between and among militaries would auger well, as levels of cooperation and confidence would be boosted.

As discussed in the introduction, the chief concern of a state is its security in a multitude of areas, chief among which is defence. As stated, the usage of air space is a means by which attacks maybe staged against the country, yet of importance is the emphasis on maritime aerial patrols, given that naval resources are limited and vessels cannot be deployed at regular intervals to monitor the entirety of Sri Lanka's maritime territory. The support that could be generated by the SLAF through the aforementioned channels would see an enhancement of aerial resources which would in turn augment the naval resources of the state.

A pivotal role would thus be played by the adoption of a policy of Air Diplomacy as a strategic foreign policy option. With the completion of seven decades since the granting of independence, Sri Lanka stands at a cross road of harnessing the opportunity of peace and racing into the future to compete with nations in the region and beyond, or of vacillating over indecision, corruption and crime. The conflict is a near decade into history. The time is ripe for challenging and critical planning, innovative and ingenious action, and most importantly succinct strategizing for the future. Air Diplomacy could play a significant role in strategizing Sri Lanka's Foreign Policy.

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THE GLOBALIZED SYSTEM, AIR AND SPACE POWER, AND THE GEO-STRATEGIC VALUE OF MARITIME SMALL AND MIDDLE POWERS IN ASIA

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ABSTRACT

The question is not whether Air Strategy, the air domain, and air technologies can make Sri Lanka specifically of strategic value, but rather why and how Sri Lanka can utilize the inherently geo-strategic position of 21st-century island powers, middle powers, and “buffered maritime” powers such as Singapore and South Korea, in general – with an “assist” from airpower. These latent potentialities for an out-sized role in geopolitics are strongly linked to features of the 21st century era of interstate relations, or “international system,” that differs markedly from features and operation of earlier eras.

We argue that the globalized order, together with the paradoxically-increasing role of disparate national ethnic identities, or the “cultural nation” within the “state,” have created a global and regional geopolitical reality of fragmented, multi-nodal cooperation and competition that inherently gives “buffered maritime powers” out-sized leverage across all instruments of power. In part, we argue this is because, with domestic identities still mattering as much as globalized cosmopolitanism (cooperative win-win ties) in the stability and prosperity of the “nation-state”, we now have a somewhat surreal reality in which Great Powers must still provide military-expeditionary capabilities for deterrence, but, a greater “gap” now exists than ever before between strategy and tactics, and between policy goals and the destructive nature of purely tactical military objectives.

In short, four factors intersect or interlink to create a geostrategic role for maritime powers that are “buffered” either entirely by ocean, or by some combination of ocean and land, from large continental powers:

- (1) (1) The realities of continued socio-political (geopolitical) fragmentation at the level of domestic national identities that argues against traditional alliance behaviors by middle and small powers, even as Great Powers seek friends to shore up their position and deny spheres of influence to the other;
- (2) The fact that Great Powers (and smaller powers) are rarely truly “enemies” anymore but rather a complex combination of cooperative

mutual benefit and zero-sum competitive distrust, the former based on dense transnational network ties and the latter on competing identities;

(3) The fact that unique national identities still create a continued need for credible and capable military power projection (i.e., deterrent threats); and yet

(4) The increasing distance between grand-strategic cooperative goals and the harsh realities of promised tactical military destruction, a “gap” created by unprecedented cooperation in non-military areas alongside the high “collateral costs” of any conflict in a globalized setting of socio-economic interlinkages.

All such factors combine to create a very specific “geopolitical profile” for buffered maritime powers, which the special attributes of air power may especially increase or expand upon, if utilized wisely. Of particular importance for mitigation of man-made and natural disasters, monitoring of ocean pollution and the environment generally, curbing illicit sides of globalization, and not least contributing to deterrence of predation by any one Great Power, will be the willingness and ability of buffered maritime powers to contribute singly and in coalitions to creating a common operating picture via much more intensive Intelligence, Surveillance, and Reconnaissance (ISR) networks in the global commons. The more that such nations can collaborate on hardware, software, and air platform capabilities in covering areas regardless of Great Power capacities, the more they can sustain the cooperative aspects of globalization while being flexible “pivot” powers in contributing to effective deterrence of attempts at regional hegemony by upholding a multipolar order.

*The Positions and Arguments in this Paper Are Solely the Views of the Author
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Introduction

The question is not whether Air Strategy, the air domain, and air technologies can make island and peninsular nations such as Sri Lanka, South Korea, Indonesia, Malaysia, and so forth specifically of strategic value all on their own. Rather, the question is why and how these smaller nations can utilize their “buffered” geo-strategic position with an “assist” from air and space power alike, particularly in the form of real-time Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) capabilities linked or even shared across sovereign boundaries. To be specific, we defined “buffered” as being geographically removed from immediate land invasion geographically while also being politically- and economically-independent from any one “power pole” in their foreign diplomacy, economic contacts, and transnational social networks. In turn, latent potentialities for an out-sized role in geopolitics by powers from South Korea to Singapore to Sri Lanka are strongly linked to the features of the 21st century era of interstate relations, particularly its increasingly multipolar or multi-nodal nature, which differs markedly

from features and operation of the earlier Cold War system. This “fragmented,” often practically non-aligned, nature of such powers creates an international dynamic that both air and space power can further build upon for purposes of overall system security, stability, prosperity, and in short: a balance of interests as well as power between competitive rising powers in and beyond Asia.

We argue that the globalized order, together with the paradoxically-increasing role of disparate national ethnic identities, or the “cultural nation” within the “state,” have created a global and regional geopolitical reality of fragmented cooperation and competition that inherently gives “buffered maritime powers” out-sized leverage across all instruments of power. In part, we argue this is because, with domestic identities still mattering as much as globalized cosmopolitanism (cooperative win-win ties) in the stability and prosperity of the “nation-state”, we now have a somewhat paradoxical reality. First, Great Powers must still create and field military-expeditionary capabilities for deterrence of each other, but, second, a greater “gap” now exists than ever before between mixed-interest, often mutual-sum policy goals and the zero-sum, destructive nature of military force at the tactical level of purely military objectives.

Of particular importance to mitigation of man-made and natural disasters, monitoring of ocean pollution and the environment generally, and curbing the illicit sides of globalization, will be the willingness and ability of buffered maritime powers to contribute singly and in coalitions to creating a common operating picture via much more intensive C2 and ISR networks in the global commons. We especially emphasize ISR and C2 capacities because the core of all potential civilian, economic, and military missions – cooperative or competitive with other states – is on-time information acquisition and communication, including as well information processing, interpretation, and exploitation. Capabilities to see, track, fix, and identify actors and platforms of both licit and illicit natures, including commercial and military activities alike, could support sustainment of the global commons via enforcement of ocean law and curbing of illicit trafficking of all kinds, while lending far more efficiency to combined regional and sub-regional efforts to mitigate disaster damage. The latter in particular is something that is already on the rapid uptick, due unfortunately to the quickly-unreeling effects of climate change. Our prescriptions are in turn as much “aerospace” as “air” strategy precisely because the future is one of using common software and hardware to link air assets with Low-Earth Orbit (LEOSAT) networks, thus even better leveraging the “geostrategic” importance of an small and middle maritime power’s dual-use air platforms.

While obviously Sri Lanka has already gone significantly down the road of providing large airlift services for UN peace and other emergency operations, we recommend that a core part of maritime small and middle powers’ air strategies be nationally and cooperatively devoted to the matching of ISR and command and control software and hardware to air frames. This would consist of not just purely defense or purely military efforts, but also, the use of economic diplomacy to foster and cement links to inevitably increasing dual-use imaging and communications capabilities in commercial Low-Earth Orbit (LEO) over the next 20 years. In this regard, Air Enterprise Development (AED) efforts would best be coordinated very closely with both the commercial sector and with the militaries of neighboring small and middle maritime states so as to have maximum technical inter-operability.

The Great Power Dilemma: Mixed Interests in a Globalized World

For Great Powers, the new globalized order confuses both high policy diplomacy and tactical planning for forces alike, constraining and burdening the ideal application of technologies to divine what is even meant by a “balance of power” in military planning terms. This is because, as Clausewitz noted early on, the logics of “mixed relationships” at a strategic level of interests do not blend all that well with the zero-sum threat and application of force at the truly tactical level of planned, concrete engagements and combat. The tactical level of combat has, as he described, a “total” and brutal character: overthrowing the opponent’s will through direct destruction and killing (or planning and threatening thereof as part of deterrence in peacetime). Without such tactical equipping, training, and deploying, latent sovereign threats of a deterrent nature – made to protect a notional balance of power and balance of interests – lack any credibility because they rest upon vague and diffuse, unclear means. One must be specific at the tactical level of combat, in other words, to be capable and credible at a strategic level with the military instrument. Yet, in a larger mixed environment of competing and overlapping interests as exists today, one does not typically harbor zero-sum intent, motivations, and objectives at a strategic or grand-strategic level. Indeed, tactical-level, completely coercive threats are meant to buttress, paradoxically, highly stable and usually cooperative, mutual-sum relations in commerce, culture, and technology sharing, even if “relative advantage” still plays a role in defining an international pecking order.

In short, four factors intersect or interlink to create a geostrategic role for maritime powers that are “buffered” either entirely by ocean, or by some combination of ocean and land, from the societies, economies, and military combined arms forces of large continental powers:

- (1) The realities of continued socio-political (geopolitical) fragmentation at the level of domestic national identities that argues against traditional alliance behaviors by middle and small powers, even as Great Powers seek friends to shore up their position and deny spheres of influence to the other;
- (2) The fact that Great Powers (and smaller powers) are rarely truly “enemies” anymore but rather a complex combination of cooperative mutual benefit and zero-sum competitive distrust, the former based on dense transnational network ties and the latter on competing identities;
- (3) The fact that unique national identities still create a continued need for credible and capable military power projection (i.e., deterrent threats); and yet
- (4) The increasing distance between grand-strategic cooperative goals in the global economy and the harsh realities of promised tactical military destruction that underlies credible deterrence, a “gap” created by unprecedented cooperation in non-military areas alongside the high “collateral costs” of any conflict in a globalized setting of socio-economic interlinkages.

All such factors combine to create a very specific “geopolitical profile” for buffered maritime powers (both small and “middle” powers), which the special attributes of air power may especially increase or expand upon, if utilized wisely. Namely, such

capacities allow small and middle maritime nations who are not physically-abutting a Great Power to pursue policies of opportunistic, fluid, and highly symbolic “limited alignments” to signal implicit approval or disapproval of a larger power’s actions across the instruments of power. In doing this balancing act – a balance of interests as much as power per se – maritime powers can gain a reputation as a responsible global actor in providing “global public goods,” thereby raising their status and reputation in global forums while also providing an indirect representation of policy stances in one direction or another, whether in peacekeeping, disaster relief, curbing illicit trafficking, latent conventional deterrence, or environmental monitoring and mitigation.

This reality increasingly seems unique to the 21st century globalized system, a qualitative difference in global and regional geopolitics genuinely not seen in this exact form in earlier “systems” of great, middle, and small power interactions. We still live in a world where nations jealously guard their core ethno-political identities with weapons, even as they cannot imagine using those weapons to profitable purpose in all-out war in a globalized socio-economic environment, despite the continuing need for sovereign deterrence of predation from rival ethnic cultures. We also live in a world where paradoxically, to protect, grow, and strengthen one’s internal political stability, wealth, and ultimately unique civic nationalist identity – that is, to increase one’s “sovereign autonomy” – one must simultaneously allow extremely interventionist, anti-sovereign transnational ties in the areas of commerce, manufacturing, direct investment, and technology sharing.

This yin-yang tension between “balance and deter, but avoid upsetting the globalized apple cart at all costs” creates a rather large gap between the logic of cosmopolitan socio-economic ties, on the one hand, and the tactical combat capabilities and concrete battle planning needed to make protection of one’s unique social identity credible, on the other hand. And it is precisely the grey-area, behavioral balancing act of “buffered maritime powers” that will increasingly aid regional and global stability by filling this gap between strategy and tactics, and non-military and military instruments, both practically and symbolically. Asian maritime powers seem especially adept at accepting such complexities, organically blending mutual-sum concerns about maintaining domestic social order and economic development with harder-edged interstate and transnational security issues. And, they do so in ways that do not slavishly follow a highly legalized, multilateral “sphere” of interactions that looks exactly the same across years of time, unaffected by Realpolitik bilateral interests and deals.

In this regard, we judge it highly unlikely that Sri Lanka’s patterns of strategic relationships across the instruments of national power will dramatically differ from other small and middle maritime powers. Sri Lanka is indeed still very much consolidating a new “civic” national identity beyond rancorous ethno-religious divisions that defined a 20+ year insurgency/counter-insurgency. This developmental task – involving not just economics but tough identity schisms and different rates of poverty – include evolving tensions with the United Nations over Colombo’s halting institutionalization and implementation of a required “transitional justice” framework for reintegrating minorities, while also reforming police and paramilitary forces to more reflect a neutral rule of law, due process, and respect for individual rights. As it happens, these issues are entirely familiar to most

Southeast Asian states – and even to some degree a South Korean populace still riven by left-right ideological schisms and human rights “skeletons in the closet” from the authoritarian Cold War years. Rather than being *sui generis*, Sri Lanka reflects the above patterns. This means that it also may leverage and benefit from a unique role for middle powers and small island nations alike to symbolically undertake “limited alignments,” politically and technologically, to aid contending stronger powers in creating a diffuse, hard-to-measure “balance of power and interests” that upholds the global and regional commons overall. As with other such powers, Sri Lanka can do this using “soft power balancing” (economics) and/or military instruments in dual-use purposes that simultaneously “signal” a latent ability to support another Great Power’s deterrent threats while more explicitly and publicly providing common security goods on non-traditional issues in the global and regional commons.

The Special Role for Air and Space Power in Leveraging the Strategic Potential of Buffered Maritime Powers

Air power has arguably more relevance in this regard than any other military arm, given its efficiency compared to trying to field a sizable navy. First, air power can offer much greater speed than sea or land domains, regardless of aircraft used, and depending on construction of make-shift or permanent airstrips in remote areas of islands or continental land, can “touch down” in extremely hard-to-access areas denied to sea instruments that require ports, or land transport that requires passable roads. Both of the latter are often notably beyond the reach of poorer nations, or gigantic archipelagic nations such as Indonesia, where distant roads, constantly maintained in adverse jungle climates, may not be practicable for normal day-to-day affairs. Witness, for instance, the incredible dependence of Sri Lanka even in its own domestic sphere of society and economy on helicopters and aircraft to traverse complex, rough terrain of water, mountains, jungles, and fields, given still a relative lack of well-maintained and safe roadways in some areas beyond Colombo. This makes air power especially useful for emergency response to man-made or natural disasters. Second, air power is “flexible” in mass or concentration, in terms of disparate forces being able to unite at a desired time and place, in a final “mass point” of desired size and lethality (if in military operations). That is, air travel is not utterly tied to the famous “lines of communication” that dominate land features and even, due to its utter vastness and the comparative slowness of ocean vessels, the world’s oceans and bays. While sea power theorists such as Alfred Thayer Mahan and Julian Corbett have made much of 100% flexibility in directional water travel, in fact commercial traffic is limited by cost and timeliness to certain well-known routes – and even military travel is hardly instant, therefore again calling for picking a subset of seemingly infinite possibilities of ingress and egress. This is where the 1st factor, “speed” comes in, to combine with flexible traversement, to allow either humanitarian or military force concentration in time and place. Third, important given that large distances are often involved, air engines have only become more and more efficient, with today’s commercial 737 and 787s of Boeing replacing gigantic 747’s and even, seemingly, the new gigantic super Air Bus, due to the former’s ability now to save up to 1/3 over old rates on fuel usage along with higher speed in delivering passengers. Of course, long-range distance, tied to speed, tied to flexible traversement, all speak to delivering of lethal military effects – or, beneficial intelligence, surveillance, and

reconnaissance on a timely basis. And this brings up another core characteristic: superior overhead observation of large swaths of the Earth from what Colin Gray has called “the overhead flank,” in which the greater the height, the more observed. Because of all of these innate qualities of air power, dual-use air forces particularly offer opportunities in increasing three-dimensional awareness of the ocean, air, land and space, or combined maritime environment, in ways that could contribute to deterrent and denial operations over key lines of communication.

The Role of a Holistic Air Strategy: Pursuing Dual-Purpose “Air Enterprise Development”

Generally speaking, because of all of the above characteristics, “Air Enterprise Development” (AED) serves to develop a nation’s globalized economic and commercial capacities, contribute to civilian peaceful operations, and even over time. For instance, in regard to the domestic side,

...Air Forces can be used for national development. AF Engineers can build aviation hubs connecting a local economy to a global economy...[and in doing so], increase its global network of “well-wishers,” that is, stakeholders of distant powers. AF Pilots can feed local civil aviation market--providing highly qualified, professional and safety conscious pilots. Air Forces can extend state reach into under-governed areas, providing medicine, government services, and incident awareness. Aircraft operations begin a virtuous cycle of increased technical competence, seeding the economy for other things.... Modern airports enable a nation faced with a disaster to rapidly receive foreign assistance when overwhelmed.

These domestic benefits, in turn, segue into the international arena, because “Aircraft purchases and joint training are multi-year commitments that enable persistent relationships and enlarge the number of stakeholders and well-wishers.” And on the international side, already it is clear that the preferred “indirect” form of military balancing lies not primarily in threats, combat, and hard coercion, but rather, in the form of peaceful, non-destructive “military engagements” at a tactical level that serve operational campaign objectives relating to governance and management of the global maritime commons. Specifically, management of illicit globalization and its assorted ills, or “non-traditional threats,” alongside smooth and trusted functioning of lines of communication, weather prediction, and disaster mitigation, will be the arena in which great powers both “court” smaller powers and cooperate with geopolitically-neutral states to “project power” towards non-violent goals. This will not be primarily accomplished via hard-and-fast military alliances based on block-based deterrent threats, but rather, use of dual-use (military-civilian) instruments, including especially the military mission of “ISR” or Intelligence, Surveillance, and Reconnaissance to create a common operating picture. This is especially needed for clamping down on the malicious sides of globalization such as illicit trafficking in humans, weapons, and drugs, alongside (hopefully, eventually) greater efforts to manage and prevent further massive degradation of the biosphere due to a massive black market industry in overfishing, illicit forest cutting and burning, illegal poaching, and illicit industrial and private pollution of waterways and oceans.

As again Schriever Scholar Team member and ACSC instructor Lt. Col. Pete Garretson has argued, “Internationally, Air Forces can

- Convey the status of a modern technological nation, [in which] the ability to sortie or provide forces externally establishes a nation as a potential coalition member while promoting it to middle power status;
- Pursue armament not to contest a larger power directly, but to force that larger power to acknowledge that the smaller power could (on their own or in concert with others) create a problem, and therefore must be mollified with additional foreign aid of various kinds;
- Enable a small state to offer assistance in periods of disaster in their broader neighborhood, creating long-term good will, increasing the likelihood that they will be perceived as a “responsible actor” and a “capable actor,” leading to being invited to other rule-making tables on global financial, trade, and new technological issues;
- Constitute highly agile, highly visible tools to signal alignment or non-alignment with major powers or coalitions (i.e., “Which team am I with” / “who am I standing beside” – or, giving the cold shoulder) – allowing a small power to communicate its pleasure or displeasure with another’s international behavior;
- Participate in Joint Exercises, Deployments, and Peacekeeping operations in ways that signal a small state’s reliability, while conversely allowing them to confer or deny legitimacy to the organizer of those activities.”

In this regard, Sri Lanka’s global peacekeeping and regional operations, such as frequent transport of peacekeeping contingents, disaster assistance, and technical parts to Nepal, Mali, South Sudan, Chad, and the Central African Republic, has already created an emerging “international effect;” since such operations in general “increase visibility and thus status...signaling a willingness and competency to be part of global enforcement of norms – something that is widely observed and says a lot about national competency and desirability as a partner or potential opponent” in the Great Power deterrent equation.

But why should “Great” powers care, given their superiority power projection in both cooperative and competitive spheres of economic and military activities? Mort Rolleston and Lt. Col. Garretson have summarized this from the opposite angle of a reigning Great Power’s dilemma, namely, finite resources and a confusing patchwork of sovereign air-space boundaries that challenge global commitments: “The United States cannot effectively respond to every crisis in the world and needs the help of capable PNs [partner nations] that can contribute aviation resources (such as airlift) to provide rapid assistance....[Further], neither the United States nor the international community can rapidly respond to crises if they fail to build and maintain overflight rights for the necessary route structures.” Thus again, domestic AED efforts can segue organically into aid for international efforts to sustain the prosperity and rule-of-law in the global commons, as well as diplomatic bargaining for crisis contingency planning such as air route requirements.

The Rising Importance of Globalized Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR)

The core of all potential civilian, economic, and military missions – cooperative or competitive with other states – will innately involve information acquisition, processing, delivery, interpretation, and exploitation. And, our prescriptions in this regard are as much “aerospace” as “air” strategy precisely because the future is one of linking air assets with LEO satellite imaging and communications networks now on the cusp of rapid commercial proliferation.

Recall what Colin Gray had to say about airpower’s unique capabilities of observation from “the overhead flank.” While obviously Sri Lanka has already gone significantly down the road of providing large airlift services for UN peace and other emergency operations, we recommend that a core part of Sri Lanka’s (or ASEAN island states’) “air strategies” be nationally and cooperatively devoted to the matching of ISR and command and control software and hardware to air frames. Such capabilities to see, track, fix, and identify actors and platforms of both licit and illicit natures, including commercial and military activities alike, could support sustainment of the global commons via enforcement of ocean law and curbing of illicit trafficking of all kinds, while lending far more efficiency to combined regional and subregional efforts to mitigate disaster damage – something that is already on the rapid uptick, due unfortunately to the quickly-unreeling effects of climate change. Finally, if needed, ISR alone and in flexible multi-national combinations could enable flexible deterrence, whether that deterrence helps the nation itself, the interests of a coalition of small- and middle-power regional states, or the larger global deterrence efforts of an extra-regional, supportive major power as needed.

In this regard, the growth of a Low-Earth Orbit (LEO) “revolution” in dual use satellites is on the cusp of exponential expansion, given SpaceX’s demonstrated abilities to lower the most expensive component of satellites – the launching away from Earth’s gravity – via re-use of launchers and engines, alongside complementary, smaller-scale, efforts at quick, repeated launches by companies such as Rocket Lab, Virgin Orbit, Athena (a Lockheed-Martin spinoff), and Orbital ATK. There are also corresponding, complementary plans by multiple launch companies to house multiple “micro-sats” in ever-larger nose cones on larger launchers, alongside continued downsizing in electronics and software that allow smaller satellite size (with less weight) with greater data through-put, alongside growing 3D printing usage to further drive costs down in this area. These globalized space and information technology trendlines are important because of the numbers of small satellites needed to escape the traditional monopolization of space-based ISR and C2 by the Great Powers. Numbers are extremely important in LEO, which is far cheaper for placement of satellites than very distant geosynchronous orbit (thus more commercially realistic). Whereas a GEOSAT can observe up to 1/3 of the Earth’s surface due to distance and breadth of vision, LEOSATS speed at thousands of miles per hour across different orbits against the natural rotation of the Earth, giving very low relative pass-over time to a given spot of terrain on Earth. Thus greater numbers are needed to correct for this deficiency to provide 24/7 reliable coverage, and not just numbers, but engineering of hardware and software to “interlink” either in space or with ground terminals and back to space, to offer a “GEO-like” ISR function on a truly flexible basis.

All of this matters for buffered maritime small- and middle-powers because such globally-interdependent orbits and capabilities are far safer from malicious offensive threats, as satellites that are “stationary” in space relative to a fixed point of the Earth in GEO orbits are now being nascently targeted by the Great Powers, against each other. This evolving coercive factor is abetted by the oft-purely-military aspects of such GEO imaging and communication satellites, untied to the “global commons,” something that increases the likelihood of their selective destruction with low collateral costs to the power using offensive means.

With enough dual-use LEO satellites in the right orbits, space ISR and C2 provides far more reliable “presence” and “persistence” compared to the “brevity of presence,” as put by Colin Gray, that dogs aerial attempts at “control of the air” – again which loops back to high expense if one wants to use continual sorties to create an artificial “virtual persistence” in the air domain. Finally, weather does not burden the orbital paths of satellites (although space debris does). Overall, space assets offer instantaneous acquisition of radio and light signals (imaging in infrared or electro-optical or multi-spectral; radio wave interception); improved on-board processing of such signals with advanced software; and increasingly flexible cross-hatching of communications to either other linked satellites and/or to ground platforms, the latter of which then can again beam signals back to another passing satellite, and so on.

One key recommendation therefore is for all Asian middle and small powers, and particularly island powers of all sizes, to pursue assiduously win-win, mutual-sum contacts with each others’ government ministries as well as with new globalized start-ups, industry conglomerates, and the evolving launch, telecom, and imaging consortiums in the business world (and sympathetic government agencies in their home countries, such as the US Department of Commerce). Such studious linkages would maximize synergies early on via “baking in” common hardware and software of commercial companies and military air establishments.

Creating “Air Diplomacy” in Relationships across Maritime Sub-Regions in Asia

We in particular argue for countries such as Sri Lanka to “reach out” to other buffered maritime powers – that is, both small and middle powers with “geopolitical distance” from any one Great Power pole – to synergize technological acquisitions and procurements towards the goal of a common ISR operating picture that involves not only “maritime domain awareness” but rather true multi-domain awareness based upon aerospace assets – or at the very least, synergize both doctrine, tactics, procedures, and operational exercises, for combatting non-traditional threats and sustaining the global commons via a common information network or “infosphere.” The goal would be to create latent foundational conditions through studious AED programs that would allow for beneficial “coalitions of the willing and able” in ISR and C2 operational missions in the air domain when disasters and interstate conflicts alike arise, via shared technical interoperability alongside shared tactics and procedures.

Although Southeast Asian states in particular will resist such intensive operational cooperation, there are promising signs that countries such as Singapore, Thailand, Malaysia, and Philippines are leading the effort of this sub-region to start thinking along the lines of something the US Navy has been pushing off and on increasingly in multilateral naval symposia: the idea of maritime powers to actually cooperate, at an operational military level with dual-use assets, to create a “common operating picture” (ISR footprint) in support of the maritime cooperative order, via achieving cooperatively “maritime domain awareness.” Currently, such symposia, workshops, and exercises have largely supported gaming exercises that utilize principally Singapore as a politico-military hub via the latter’s Information Fusion Center, using in turn a US-aided common communication network, the Combined Enterprise Regional Information Exchange System (CENTRIXS), as well separate maritime operations centers (MOCs) in Brunei, Philippines, and Thailand. In our view, maritime small and middle powers could particularly utilize air power to do this “on the cheap” via leveraging commercial “off the shelf” technologies wherever possible. As argued in a recent thesis by two US Naval Post-Graduate School student officers in regard to “A Concept Of Operations For An Unclassified Common Operational Picture In Support Of Maritime Domain Awareness,”

The maritime domain is an area of significant strategic concern to the United States and its allies. When the need arises, U.S. forces are able to detect and monitor vessels of interest (VOIs) in support of maritime interests throughout the world. However, current maritime domain awareness (MDA) processes lack the ability to provide actionable information in a timely and usable manner. Advances in intelligence, surveillance and reconnaissance (ISR) technology—particularly unclassified data sources, analytical processes and tools—available in the commercial sector could be leveraged to make MDA data more accessible and productive.

All of this said, we are not as a Western author calling for a copying of US-Western “allied” practices of a value-based character; this would be extremely contrary to the systemic and regional realities we have outlined. Rather, we think that “slight outsiders” such as Sri Lanka – i.e., an external-to-Southeast-Asia, but still similar buffered maritime state – should stubbornly pursue, even if diplomatically difficult, dual-use civilian-military aerial cooperation with the air forces of “core” ASEAN states, particularly technology leader Singapore, in providing a common, coordinated, and technically-interoperable ISR and C2 mapping of the maritime terrain from Oman to the Philippines, notably separate from any Great Power. The point would be to avoid de facto technological and geopolitical dominance of crucial energy and sea lanes by either India, China, or yes the United States, even with India for instance owning the Andaman and Nicobar islands near the mouth of Malacca Straits.

Of course, because of the latter, this would likely therefore require similar coordination, doctrinally and technically, with a rising India, albeit ideally with a leaning towards other, similar maritime powers further East rather than representing a “sphere” for India, which has its own pretensions to a morally-exceptional Great Power role, with increasing geo-strategic frictions with Beijing. In this regard, cooperation with Australia – which has excellent relations with Beijing, has less “irons in the fire” in this sensitive maritime area, and which avoids a nationalistic version

of Great Power status – might be smart from both a symbolic and technological perspective. Such “information operations and missions”, whether in training and equipping, doctrine, technological procurement and common capabilities, and even eventually common exercises, could increase the multilateral power of highly-similar maritime nations outside the rarified, highly-issue-prescribed boundaries of ASEAN forums. That is, such efforts would hopefully go beyond the Southeast Asian straitjacket of either strict bilateralism or diffuse, lowest-common-denominator, military-constrained multilateral cooperation. As such, it would be of incredible value both to sustainment of the commons and in leveraging the geo-strategic power of buffered maritime nations.

Conclusion

In sum: countries such as Sri Lanka, Indonesia, Malaysia, Singapore, and so forth should “reach out” to each other, across geopolitical sub-regions in Asia, particularly if they share “geopolitical distance” from the larger societies and combined-forces militaries (including short-range air forces) of any one Great Power pole. By “reaching out” we mean purposeful synergizing of technological acquisitions and procurements towards the goal of a common ISR operating picture that involves not only “maritime” domain awareness but rather true multi-domain awareness based upon aerospace assets. Such buffered maritime powers should slowly over time synergize doctrine, tactics, procedures, and operational exercises for combatting non-traditional threats via a common information network or “infosphere.” The goal would be to create latent foundational conditions through studious AED programs that would allow for beneficial “coalitions of the willing and able” in ISR and C2 operational missions in the air domain when disasters and interstate conflicts alike arise, via shared technical interoperability alongside shared tactics and procedures. The more that such nations can collaborate on hardware, software, and air platform capabilities in covering areas regardless of Great Power capacities, the more they can sustain the cooperative aspects of globalization while being flexible “pivot” powers in contributing to a multipolar balance of interests.

AIR POWER AND FUTURE NATIONAL SECURITY IN THE INDIAN OCEAN

AN AUSTRALIAN PERSPECTIVE

Wing Commander Travis Hallen

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ABSTRACT

The Indian Ocean has been a defining feature in Australian national security since the creation of the Commonwealth of Australia in 1901. Prior to the Second World War the Indian Ocean was the primary conduit for trade and military traffic between Australia and the Mother Country. During the Cold War, the geostrategic significance of the Indian Ocean shifted; no longer was the connection with Great Britain the primary concern, but it was energy, security and the need to assure access to the resources of the Middle East, which were fuelling the post-war economies of Australia and the rapidly growing Asian region, that became the primary concern. Since the end of the Cold War, the Indian Ocean's significance to Australian and global security has continued to evolve. Not only does the Indian Ocean possess some of the most important sea lines of communication upon which the global economy and national prosperity depend, but it has increasingly become a region of great power competition.

The Indian Ocean's geostrategic and economic significance to global security will continue to grow and evolve as the global strategic centre of gravity continues to shift from west to east. From an Australian perspective, ensuring that the Australian Defence Force develops and possesses the capabilities necessary to provide the Government with the military options to promote and protect Australian interests in the Indian Ocean Region will be critical to its national security for the foreseeable future. In the future, Air power, in particular, will continue to play a key role in the protection of Australian security interests in the Indian Ocean Region.

The aim of the paper will be to describe the importance of the Indian Ocean to Australia's national security into the future, and the role air power will play in promoting Australian security interests in the region. The paper will define and explain the concept of national security in terms of prosperity, territorial integrity, and sovereignty. The paper will then describe the development path of Australian air power to provide an appreciation of the air capabilities that the Australian Defence Force will plan to bring into service in the 2030 timeframe. Finally, the paper will analyse how Australian air power could contribute to security in the Indian Ocean Region across a number of possible alternative futures outlined in the Australian Defence Force's Future Operating Environment: multi-polar, multi-lateral, networked, and fragmented worlds. Although the paper does not explicitly address the geostrategic significance of Sri Lanka within the Indian Ocean Region, the

definition of national security used will explicitly incorporate the interdependencies that exist between the national security of the many states with interests in the Indian Ocean. The paper will therefore provide specific examples of the intersections between Australian and Sri Lankan security interests and describe how air power contributes to the national security of both countries.

Key words: *Air power, Geostrategic, National Security*

Air power plays a vital and enduring role in the Indian Ocean, but its character is changing. There are strategic and technological trends reshaping national, regional, and global security. Air power professionals need to anticipate how these trends influence the future of air power, and prepare their services to capitalise on the opportunities and mitigate the risks that lie ahead. But anticipation is not prediction. It is not possible chart one path into the future and pursue it with blind determination. Instead, airmen need to map out a range of options in response to that which could result from the interactions of multiple factors, many of which they may have little control over.

This paper offers a personal view on how current trends may disrupt the form and function of air power's contribution to the national security of the states within the Indian Ocean. It is not the only view, and its view does not reflect an official position of the Royal Australian Air Force. However, it draws on research and debates that the author has had as the Deputy Director of Development in the Australian Air Force's Air Power Development Centre.

The paper begins by analysing two strategic trends in the region that are of mutual interest to Australia and Sri Lanka: maritime crime and its connection to the depletion of regional fisheries. The paper will then look at how two technological advances—modular systems and drone technology—will increase capability and flexibility, while reducing the costs of air power.

First, clarification of it is needed of the use of the term *national security* in the title of this paper. *National security* is a concept that is poorly defined but widely used. Its meaning varies based on the context of the discussion, the speaker, the forum, and the audience. The potential for confusion grows when the Indian Ocean region is discussed, as it is 'one of the most complex regions in the world'.

The paper does not discuss the specific national security concerns of individual states, as they will be different between each state. However, even though specific security needs vary from state to state, there are common areas of shared security concern. One such area is national economic prosperity. That is the area on which this paper will focus.

For Indian Ocean states, the quest for prosperity is inextricably linked to the security implications of a rise in maritime crime and the over-exploitation of regional fisheries.

Maritime crime is a concern to island nations such as Australia and Sri Lanka, as both countries are dependent upon the security of the sea lines of communication

for their legal maritime trade, but also vulnerable to the illegal use of those same lanes to smuggling activities involving drugs and weapons, among other things. The two island nations share a common interest in this issue. In September, Sri Lanka's Ministry of Foreign Affairs and Australia's Department of Foreign Affairs co-hosted the Indian Ocean Region Association's (IORA) 'Initial Workshop on the Establishment of the IORA Maritime Safety and Security Working Group' here in Colombo.

Fortunately, the Indian Ocean has provided a relatively peaceful and secure environment in which states can operate with relative safety. However, this may not always be the case.

In terms of securing legitimate maritime trade, piracy stands out as the major regional threat. Over the past decade, the Horn of Africa revealed the vulnerability of modern economies to piracy. Gangs of Somali men, a number of them who were unemployed fishermen, used fishing boats to attack commercial shipping, literally holding regional maritime trade for ransom. The economic cost of Somali piracy peaked at \$7 billion in 2010. Western shipping responded by diverting ships to longer and less economical routes, and investing in military security. Piracy declined after a global naval response, including from NATO, China, Japan, New Zealand, and Australia. But piracy is again on the rise; 2017 saw a 100 percent increase from 2016 in Indian Ocean incidents. Though the 54 attacks in 2017 remains below 2010/11 levels, the uptick in incidents indicates that the underlying causes of regional piracy have not been resolved. This view is supported by the fact that one of the reasons given for the increase was NATO's drawdown of its anti-piracy operations in December 2016. The capacity and intent to engage in piracy existed, but the gangs were deterred by maritime security operations.

Piracy threatens the freedom of the sea lines of communication; smuggling exploits it. Unlike piracy, however, smuggling affects the entire region.

In December last year 1.2 tonnes of methamphetamine, believed to have originated in China, were seized from a fishing boat off the West Australian coast. In 2016, the Sri Lankan navy seized over 100 kg of heroin from an Iranian dhow off the Sri Lankan coast, the largest to date in the Eastern Indian Ocean. Last year Sri Lanka's Law and Order Minister highlighted that Sri Lanka's strategic position makes it vulnerable to drug smuggling. But it is not just drugs that pose a threat, smuggling of people, weapons, and other contraband transiting the Indian Ocean poses a challenge to national security. It is worth noting that one of the primary tools used by smugglers across the region are fishing boats, and many of the smugglers are, in fact, unemployed fishermen.

This leads me to the second threat to national security, the overexploitation of regional fisheries.

It is difficult to overestimate the importance of fishing to the states and people of the Indian Ocean. Fishing is the main source of nutrition for many of the region's 2 billion people, and is the source of economic livelihood for many millions. Unfortunately, 90 percent of the world's global fisheries are either overfished, already depleted, or are recovering from overfishing. Illegal, unregulated, and unreported fishing exacerbates this threat.

Up to 34 percent of the fishing in the Indian Ocean is illegal or unreported. In economic terms, this costs billions of dollars to regional economies—global illegal fishing is a \$36 billion industry. Of greater concern is how the depletion of regional fisheries impacts state stability and maritime crime.

A decline in fish stocks means a decline in food security for states with a high dependency on fish protein, as are many states in the Indian Ocean. Threats to food security may, in turn, lead to domestic turmoil and potential regional instability. Further, as fishing fleets become idle and their crews unemployed and hungry, there is an incentive for fishermen to turn to maritime crime to provide for their families. With approximately 90 percent of the world's 4.6 million fishing vessels located in the large fishing communities of Asia and Africa, this threat is a real concern.

Scientists predict that in 30 years 'there will be little or no seafood available.' The possibility that there may soon see a surge in maritime crime fuelled by the overexploitation of regional fisheries cannot be ignored. By identifying the possibility of such a future, and studying its impact to national security and prosperity, military strategists and policy makers are in a position to take preventative action today.

One way to mitigate this threat is to implement and enforce sustainable fisheries management regimes. Central to making this work will be the capabilities and commitments by regional states to combat illegal fishing through maritime surveillance and enforcement. Capabilities acquired to support fisheries management will also provide states with the ability to identify, track, and intercept maritime crime wherever it may occur in the region; from the east coast of Africa, through the Bay of Bengal and into the Straits of Malacca, and south to the coastline of Western Australia and the boundaries of the Southern Ocean. This is a challenging task requiring investments in the acquisition, development and sustainment of a maritime surveillance and control capabilities. But it may not be as expensive an investment as it once was as technology offers the promise to increase air power capability at a reduced cost.

Before moving onto discuss the technology trends that may shape the future of regional air power, it is important to emphasise that air power developed and employed in isolation is not the solution. Effective maritime security operations depend on integration across the air and sea domain, between different services, and across a multiple nations. My focus on air power is not intended to overlook the essential role of surface forces, which are essential in any maritime enforcement operations. My focus is on how air power can best support naval and coast guard forces through the conduct of maritime intelligence, surveillance and reconnaissance (or ISR) missions in security operations led by a surface force.

Air power is uniquely suited to the ISR requirements of maritime security operations. By exploiting speed, reach, flexibility, and perspective, air assets can observe and report activity across the expanses of the world's oceans more rapidly than surface assets. This is something understood intuitively by airmen, but is sometimes difficult for them to explain when they talk about it in abstract. An example, of the operational advantages of air power in a maritime ISR role was the recent rescue of Abilash Tomy, whose yacht was damaged during a round-the-world yacht race. Two P-8 Poseidon maritime patrol aircraft, one Indian and one Australian,

located Tomy and vectored a French fisheries patrol vessel to his location. Tomy was rescued from the southern Indian Ocean nearly 2000 miles from the nearest airbase.

This ability to reach into the Indian Ocean has always been an important part of Australian defence capability. The P-8A Poseidon, the latest generation of Australian maritime patrol aircraft, has already commenced operations in the region from both Australian and regional bases. State-of-the-art sensors, extended range, and networked capabilities make the P-8 a highly effective contributor to regional maritime security. From mid-2023, the RAAF's P-8s will be joined by the first of at least seven MQ-4C Triton maritime Unmanned Aircraft Systems (UAS). The Triton's long endurance, high-altitude operating capability, and diverse suite of sensors will provide the Australian Defence Force with unprecedented long range, wide area, and persistent surveillance capability. The true potency of this capability will be achieved through the integration of the P-8, the Triton, and Australia's naval capabilities that are also currently undergoing a generational upgrade.

Though potent, these capabilities are expensive. The P-8 and Triton are true networked capabilities. So to realise their full potential requires significant changes to the Air Force and the way it operates. This is why the RAAF is in the midst of a major transformation into a fifth-generation Air Force. Not all states have the resources or the desire to undertake the changes required by next-generation capabilities. However, this does not mean they cannot leverage advances in air power technology. Two technology areas that promise to improve surveillance capabilities without a prohibitively costly level of investment—these are modularised payloads and unmanned technology.

Modularisation refers to standalone capabilities that were not part of the original aircraft design but can be added to the aircraft, as needed, to perform particular mission. Advances in electronics and miniaturisation are enabling a growing range of modular systems, particularly in the surveillance role, that can be added to aircraft to provide or enhance capabilities. Modular electro-optical sensors, synthetic aperture radars, and moving target indicators make affordable alternative options to expensive high-end maritime surveillance. These bolt-on modular systems can enhance existing capabilities to perform new roles or upgrade civilian aircraft to perform missions that were previously only possible with military aircraft. Transport aircraft, such as the C-130, or commercial aircraft such as the Beechcraft King Air, can be fitted with systems enabling them to fill a maritime surveillance role. This would provide small military forces with options for new and enhanced flexibility and capability at relatively low cost.

The second technological trend is the rise of unmanned aircraft system (UAS), which have become a defining technology of modern air power. Advances in manufacturing, artificial intelligence, and telecommunications enable relatively low-cost access to airborne surveillance capabilities, reducing the barriers to access high-tech capabilities and enabling the return of mass to air power strategy. UAS are not new, but recent advances have seen the proliferation in both their numbers and their range of employment. The effective use of commercial UAS in the form of commercial-off-the-shelf drone aircraft by ISIS in Iraq and Syria was a watershed event in modern air power. Though small and relatively cheap, drones provide effective ways to extend the ISR range in land and maritime

operations. Commercially available quad-copter drones are now being used by the Australian Army to enhance land force surveillance capabilities at minimal cost.

Commercial and civilian interests are driving innovations in UAS and drone technology, from private photography to broad area surveillance roles. But the focus of innovation has remained largely on land-centric operations. How exactly UAS will improve the ability of regional navies and coast guard units to perform in maritime security and fisheries surveillance roles is still unclear. This is an area where there is an opportunity for smaller forces to take the lead in driving operational and technological innovation, as it is clear that UAS and smaller commercial 'drone' type capabilities, can offer affordable and disruptive capability options for small force air operations. TX Hammes, a retired US Marine Officer and Senior Research Fellow at the US National Defence University, captured this quite succinctly: '[W]e should expect the new generation of small, smart, and many to quickly replace the old generation of few and exquisite weapons.'

Modularisation and UAS hold much promise for smaller forces to field advanced maritime surveillance systems. However, it is important that the allure of technology does not obscure the vital role of people in regional maritime security role. It is with people that this paper closes.

Despite the promises of artificial intelligence to process the vast quantities of data collected by surveillance assets—a promise that remains largely unfulfilled—for the foreseeable future the effectiveness of maritime security operations will depend upon the local knowledge and experience of the people who live in the region. Persistent wide area surveillance across the expanse of the Indian Ocean, collecting vast amounts of data about local and regional maritime traffic and activities, will be wasted if it is not supported by an understanding of the cultures, behaviours, and unique dynamics of people in a particular area, translating that data into useful knowledge to support maritime security operations will be impossible. When is a fishing boat a pirate vessel, or a smuggler? How effectively are fisheries management regimes balancing short term requirements with long term sustainability? The importance of local expertise to answer these questions through the processing and exploitation of surveillance data cannot be overestimated as the Indian Ocean is one of the world's most diverse regions and therefore presents unique challenges to maritime security. Ensuring that surveillance operations are supported by an informed and experienced analytical capability that is intimately familiar with the unique local context is essential to future maritime security. For the foreseeable future, this will need to be a human-centric capability. This is an important point often lost in the quest for technological solutions to modern strategic challenges.

Conclusively, air power plays a vital and enduring role in the security of the Indian Ocean, but its character is changing. The future of the Indian Ocean that is emerging is one in which the depletion of regional fisheries threatens a rise in maritime crime. But technology offers hope that this threat can be mitigated through the innovative adoption and employment of emerging air power capabilities, such as modular systems and drone technologies. Air power is approaching a turning point in its history, a junction at which smaller forces, such as Australia and Sri Lanka, have the potential to lead major operational change.

Air power professionals need to anticipate how these trends influence the future of their service, and prepare to capitalise on the opportunities and mitigate the risks that lie ahead.

AIR STRATEGY IN SUBSTANTIATING THE MARITIME INTERESTS OVER BAY OF BENGAL: BANGLADESH PERSPECTIVE

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ABSTRACT

Bay of Bengal is emerging as a critical theatre for economic and strategic competition in the region due to significant changes in Asian maritime security dynamics and quest for new connectivity corridors. Being the vital wings of Indian Ocean, Bay of Bengal is renewed with geo-economic significance highlighting the potential for power politics too. Bay of Bengal is approximately 1,300 miles long and 1,000 miles wide bordered by littoral states-Sri Lanka, India, Bangladesh, Myanmar and Thailand. It is believed to be one of the biggest reserve sources of offshore hydrocarbon reserves including gas, oil and living resources. It bridges South East Asian economy to Middle Eastern oil sources too. Sustainable use and management of these living and non-living resources are the stepping stones of the socio economic development of the region by ensuring food security and enhancing energy security. As a result, the embryonic concept of Blue Economy is currently echoing in Bangladesh as well as number of countries across the world.

A national policy objective of a state is achieved by precise application of its strategy. In this context, the littoral states may look for an air strategy in maritime AOR as integrated maritime system of mutual objectives. Bangladesh Navy ships continue maritime surveillance patrol in Bay of Bengal covering EEZ round the clock to augment situational awareness on maritime defense, safety, security, fisheries control, trade and economic interests. The coast guard operates within her area of jurisdiction to ensure security. However, the speed of reaction, flexibility and reach puts airpower in the frontline to address the vastness of maritime domain by combat or non-combat action in response to threats. So, Bangladesh Air Force may augment their effort by adopting suitable air strategy where identification of opportunities and actions for cooperative maritime security of Bay of Bengal would be the mainstay. Moreover, non-combat application of air power like aerial surveillance, reconnaissance, air transportation to the people in distress for natural cause and airlift for humanitarian tasks in maritime arena are important to ensure enhanced cooperation in the interest of any actor involved in maritime security. Such engagements facilitate a better understanding of each other's concerns and challenges, thereby forming the foundation of a stable Bay of Bengal. A strategy of cooperation amongst the littoral states of this region may also be obtained in substantiating common maritime interest over Bay of Bengal which may include

Information Sharing for security, MSAR, Disaster Management, Emergency Resupplies and cross training of airspace users for common procedures.

BAF and BN put emphasis to enhance long-range anti-submarine warfare, anti-surface warfare, surveillance and reconnaissance capability in Maritime Domain. Shore Based long range radars with overlapping coverage over maritime domain would also provide information on aerial platforms over it. Integrated Surveillance and Data Management System of BAF and BN aviation along with surface vessels and attaining all-weather day and night MSAR capability by BAF are the first steps towards joint effort.

Keywords: Economy, Maritime Security, Bay of Bengal.

Introduction

The Asian maritime landscape is undergoing significant changes marked by great power rivalry, geopolitical competition and increased hostilities. In this changing Asian security dynamic, the Bay of Bengal being vital wings of Indian Ocean is emerging as a critical theatre for economic, power politics and strategic competition in the region. A quest for new connectivity corridors across the bay has renewed its geo-economic significance while highlighting its strategic undertones. The sea lines of communication are gaining increasing importance over the years with the gradual shift of economic centre of gravity towards East Asia. Hence, it conceives pivotal strategic significance in the global and regional geo-economic and geo-political environment.

Historically, Bangladesh is a maritime nation. The concept of the Blue Economy is currently echoing not only in Bangladesh or in littorals along Bay of Bengal but also in a number of countries across the world. Several countries have publicised national initiatives and action plans to stimulate the Blue Economy. Bangladesh has significant resources like ports, seafarers, ship-building, seabed mineral resources, fisheries, aquaculture, energy, biotechnology etc. Therefore, finding Blue Economy in the national agenda for the post-2015 Development Agenda for Bangladesh is not a surprise but a logical outcome.

The littoral states of the Bay of Bengal having a populace of approximately 1.4 billion are rising in economy. Bay of Bengal is approximately 1,300 miles long and 1,000 miles wide bordered by littoral states- Sri Lanka, India, Bangladesh, Myanmar and Thailand. It bridges South East Asian economy to Middle Eastern oil sources and is believed to be one of the biggest reserve sources of off shore hydrocarbon reserves including non-living resources like gas, oil and living resources like fishing resources, herbs and corals which are the stepping stones of future economic development of the region. Sustainable use and judicious management of these resources would leverage socio-economic development, enhance South Asia littoral states' employment creation, energy and food security. As the geopolitical environment continues to shift, there is also a new opportunity to strengthen existing platforms and mechanisms as well as explore new cooperation amongst the littorals. The objectives of regional and extra-regional actors in Bay of Bengal (BOB) converge at sea.

Air power does not mean uniquely combat power, but embraces reconnaissance, intelligence gathering and airlift for humanitarian or evacuation tasks. Ships and commercial marines, coast guards and navies can also undertake some of these roles in maritime arena to an extent. The comprehensive results would come by harnessing the efforts of airpower irrespective of the forces operating it, ships irrespective of military or civil and all other enablers that can enhance safety of activities that are taken for maritime domain and blue economy activities.

Aim

The aim of this paper is to offer a perspective Air Strategy in complimenting the Maritime interests over Bay of Bengal.

Air Strategy

Air Strategy conjures up an image of mass bombing raids either of World War II or more recently of Vietnam. This is not surprising because the initial concept of Air Strategy stressed upon offensive action, with the famous dictum “The bomber will always get through”. However, the use of airpower to further a nation’s strategic objectives has come a long way since the pounding of Germany’s ball-bearing factories by Allied bombers or the destruction of Hiroshima and Nagasaki by aerial bombing having significant effects on the outcome of World War II. Air Strategy, in its simplest form, can be defined as “The concept for the employment of Air Power”. Hence, most commonly air strategy is classified as - Counter Air Campaign, Anti-surface force Campaign and Strategic Air Offensive Campaign. This is a function-based account of air strategy but to deal with the maritime security it would be more appropriate to consider objective based approach to air strategy.

The littoral states may consider an objective based approach to air strategy, from the model of 5D air strategy - Denial, Destruction (Punishment), Decapitation, Deterrence and Diplomacy.

Denial

A denial strategy recognizes the interconnection between destruction and the will to fight and focuses on the target state’s military strategy.

Destruction

Destruction, i.e. punishment strategy, aims at pushing a society beyond its economic and psychological breaking point.

Decapitation

A decapitation strategy aims at destroying or isolating an opponent’s leadership.

Deterrence

Deterrence is merely a passive threat aimed at keeping an adversary from acting.

Diplomacy

Air diplomacy is an effective strategy of defending vital national interests, building necessary partnerships, preventing conflict, and expanding national influence

The stake holders may look for an air strategy in maritime AOR as an integrated maritime system in which participants have mutual objectives threatened by common risks and shared vulnerabilities. Identification of opportunities and actions for cooperative and collective maritime security would be the mainstay of the air strategy for Bay of Bengal.

Air Diplomacy or Air Strategy of Cooperation

The word “diplomacy”, automatically picture embassies, foreign affairs officers and cocktail parties. But in essence, it has many faces. Examples like the security of the Hellenic Airspace during the Olympic Games in 2004, the tsunami assistance in Thailand, the earthquake relief tasks in a number of countries are useful equivalents to diplomatic engagement and highlight how air power can bridge the distance between diplomacy and force.

It is an effective strategy of defending vital national interests, building partnerships, preventing conflict and expanding national influence by employing air power as an instrument of national power. Certainly, aerial delivery of relief supplies serves not only to alleviate the immediate situation, but also to provide a visible symbol of the care, concern and capability. Using air power as a diplomatic means is an attractive option for building, assuring allies and dissuading enemies. Air diplomacy is likely to become an increasingly important dimension of politics, as air power can respond quickly to a changing security environment with a level of speed and flexibility unmatched elsewhere.

Air Strategy: Bangladesh Perspective

Rapid deployment of air power in adequate strength to meet any eventualities remains as attractive an option to address the vastness of the maritime domain. Littoral states of Bay of Bengal engaged in technology cooperation, can better manage and respond to threats to maritime security domain. The littorals must continue to explore new areas of cooperation and discuss fresh concepts and ideas as the maritime environment continues to shift drastically. Such engagements facilitate a better understanding of each other’s concerns and challenges, thereby forming the foundation of a stable Bay of Bengal. In this regard, BAF already has taken one step towards achieving its aim to secure country’s maritime interest.

Maritime SAR.

BAF has recently developed all-weather round the clock day and night MSAR capability with her state-of-the-art AW-139 helicopter covering whole of EEZ and beyond. The night operations include use of NVG to ensure mission success. In case of necessity depending on the scale of rescue operation (CASEVAC/MEDEVAC)

BN ships can also be engaged in rescue effort. Such capability may be shared by all littoral countries to ensure a comprehensive search and rescue in Bay of Bengal.

Maritime Surveillance.

Maritime Surveillance aims to improve the situational awareness of all activities at sea impacting on maritime safety and security, the marine environment, fisheries control, trade and economic interests as well as general law enforcement and defence. BN ships continue surveillance patrol in Bay of Bengal covering EEZ round the clock. Bangladesh with Naval MPA is capable to search around 150 nm into the sea from Cartogram. Such capability can further be enhanced by other long range BAF transport aircraft. BAF and BN would have a future emphasis to enhance her long-range anti-submarine warfare, anti-surface warfare, intelligence, surveillance, and reconnaissance capability in Maritime Domain. Shore Based long range radars with overlapping coverage over this domain would also provide information on aerial platforms loitering over it.

Maritime Security.

Discussions of maritime security frequently done by pointing to 'threats' that prevail in the maritime domain such as maritime inter-state disputes, maritime terrorism, piracy, trafficking of narcotics, people and illicit goods, arms proliferation, illegal fishing, environmental crimes, or maritime accidents and disasters. It can also be considered as embracing all measures taken to prevent hostile interferences with lawful operations. Ensuring Maritime Security requires strong and enduring partnerships between civilian and military authorities. Enhanced cooperation concerning the Maritime Domain is in the immediate interest of any actor involved in maritime trade and security. The coast guard operates with limited ship within her area of jurisdiction which is addressed appropriately to ensure security. BAF augments Coast Guard effort by providing aerial surveillance, logistic resupply and even combat sorties by armed/attack helicopters operating in unison. The integrated surveillance and data management system of BAF and BN aviation along with surface vessels are capable to provide effective safeguarding of the resources in the bay.

Natural Disaster.

Bay of Bengal and its coasts have forever remained troubled with natural causes such as cyclones, floods, tsunami etc resulting loss of life and property and thereby hurting all the littoral countries. Meteorological forecasts over disaster occurrence have become more accurate over the years. Air transportation of life saving materials directly to the distressed both at day and night is likely to reduce loss of life. The best example of operating in support of friendly nations can be found in Bangladesh's deployment of two helicopters and one C-130 in support of Tsunami hit Sri Lanka and Maldives.

Areas of Cooperation

Regional approach to integrated cooperation may add an emphasis of the proposed air strategy. As the Indian Ocean becomes increasingly important to regional powers like India and China, so does ensuring the security of the Bay of Bengal. Maritime interests over Bay of Bengal can better be achieved through strategy of cooperation amongst the littoral states of this region. The areas of cooperation may include Information Sharing, maritime search and rescue, cooperation on Disaster Management, Provision for Emergency Resupplies, sharing information on Piracy/Robbery and cross training of airspace users to have common procedures.

Sri Lanka will soon have a rare opportunity to contribute to the development of the Indian Ocean region, by harnessing the Bay of Bengal's regional organization assuming Chairmanship of the Bay of Bengal Initiative for two years which has an increasingly important role. In addition to urging members to ratify BIMSTEC's security conventions, Sri Lanka could propose establishing coordinated maritime patrols to secure the Bay against non-traditional security threats like piracy and trafficking to expand the current practice of coordinated patrolling by India and Myanmar by following example of some ASEAN states. Sri Lanka could also work to establish a hotline among littoral states of the Bay, to facilitate this coordinated patrolling. In 2016, Indonesia, Malaysia and the Philippines agreed to establish a hotline to combat piracy and kidnappings, and to coordinate patrols in waters of common interest.

Conclusion

In today's world, where it is denominated as global village, no country can prosper in isolation, rather mutual cooperation, assistance and working in groups can ensure comprehensive and sustainable development of a country or a region at large. Number of initiatives taken by the countries surrounding Indian Ocean for economic, political and maritime cooperation where numbers of alliances were formed to address issues related to such cooperation. Yet, many of these are not as active as anticipated during the formation of these groups. Now that the strategic importance of the Indian Ocean region has come in the forefront to activate these already existing groups it deemed necessary to form some new groups or alliances for better utilization of efforts by the regional nations. The countries around the Indian Ocean region must recognize the problems and challenges emanating from the region and require a regional approach through regional cooperation.

Colombo Air Symposium may endeavor to generate a flow of information between military aviation professionals that would lead to common understanding and possibly cooperative solutions on the way ahead.

EMERGING GEOSTRATEGIC IMPORTANCE OF SRI LANKA IN THE SOUTH ASIAN REGION

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ABSTRACT

South Asia is a sub-region of the Asian continent comprising the modern states of Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka. Today, the states of Indian Ocean Region (IOR) range from the small island nations to sub-continent to continents. They are connected geographically and historically within the third largest Ocean in this world; and their security, prosperity and vital interest are inextricably linked together. Robert Kaplan in his article in an issue of Foreign Affairs of March-April 2009 has said that the Indian Ocean is the world's energy and trade interstate seaway, and will become even more important in the strategic term in future. Some 40% of the world's seaborne trade, 50% of its container traffic and 70% of the traffic in hydro-carbon products transit this ocean.

In South Asia, profound changes are taking place. Due to its geopolitical and geostrategic importance, South Asia has been holding a very key position in emerging geostrategic. South Asia is a strategically important region. The global economic power is shifting from the western to the Asian region and increasing geostrategic significance of South Asia. South Asian Skies is not far from global air strategy and importance. Day by day South Asian Skies important has been significantly increasing in this region. Due to geopolitics issues, global security threats and challenges, and regional power uncertainty, the powerful and big nation are dominating to the small nation by violating borderline by land and air. This is the very crucial time that all south Asian countries must give priority on Air strategy for future security and prosperity.

This paper examines that on how the island nation to protect its skies with the support of regional air forces. Nepal is a landlocked country and Sri Lanka is an island nation. Both nations have been facing regional and global challenges in the contemporary scenario. This study main objective is that to find out How Nepal's air aviation and Sri Lanka's air forces unite to fight alongside regional issues and challenges. The researcher has mainly focused on the geopolitics of the Island nation including military ties and air force cooperation with the landlocked nation. Here, in this paper researcher has elevated another key point that how Nepal and Sri Lanka can cooperate together on humanitarian assistance and disaster relief (HADR) operations. In this paper, the researcher has gone through descriptive research methodology on the base of instead of elements of the chart. The statement of the problem, the objective of the study, the scope of the study, limitation of the study and literature review have approached on the based of analysis on descriptive research methodology.

Undoubtedly, The air strategy for the future will help to shape how air force will transform to a new generation force over the next decade and beyond a period of increasing strategic uncertainty, rapid changes, and complex operational challenges in South Asian Skies. Our strategy must be focused on primarily on those key area we must change in order to ensure Air Force's continued growth as a modern and effective force capable of undertaking regional and global operations as part of the island nation and landlocked nation.

Key Words: Nepal – Sri Lanka, Geostrategic, Geopolitics Island, Disaster, Humanitarian Crisis, Air aviation, Air Force, South Asian Skies.

Chapter One

Introduction

Background

South Asia is a strategically important region. Located across the key sea paths of the Indian Ocean and home to more than a fifth of the world's population, it is easy to see how South Asia is dignified to play a key global role in the 21st century. South Asia is achieving increased global importance encapsulating as it does around 1.5 billion people who represent one-quarter of the world's population. Geographically, It is well defined and distinct geographical region with varied characteristics and diverse flora and fauna. The global economic power is shifting from the western to the Asian region and increasing geostrategic significance of the South Asia region has resulted in cooperation and competition among the established and rising powers in the region. While the economic cooperation between them has significantly grown in the recent past, the geostrategic and geopolitical frameworks remain very uncertainly. In essence, the emerging trends and issues in the Indo-Pacific offer unique opportunities as well as intimidating challenges to the nations. These developments have generated great interest and debate among the researchers, academics as well as policymakers circles across the world.

Statement of the problem

South Asia is a sub-region of Asian continent comprising the modern states of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. In South Asia mainly two regional cooperation institute have been working to share bright future and regional cooperation. South Asian Association for Regional Cooperation (SAARC) and The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) are working for regional unity.

Nepal is not only a landlocked country. An important aspect of Nepal's location is its like style on both sides physical gap in between the Indo Gangetic Plain in the south and Tibetan Plateau in the north. In practice "India-locked" from the three more accessible sides even though the nearest access to the sea is 1127

kilometers away beyond the Indian Territory. Therefore as far the development process of Nepal is concerned political and geographical location play a very vital role.

Nepal doesn't share a border with Sri Lanka but our mountains, culture, Buddhism is beyond our bilateral relationship. Nepal is landlocked and Sri Lanka is Island nation but both countries hold the strong geostrategic position in this region. Sri Lanka lies at the center of the Indian Ocean. Today, Sri Lanka has emerged from a decades-long civil war is enjoying an economic revival. Sri Lanka remains at the center of it all, enjoying great geostrategic importance, owing to its deep harbors and trade-friendly location.

Despite these many things and geostrategic challenges, there are positive prospects for the region; however, it is extremely important that Nepal and Sri Lanka need recognize emerging geostrategic importance

Objective of the study

The global attention is drawn to South Asia because of the emerging strategic significance. Sri Lanka has her own importance because of her geography and potential. The researcher will be focusing on these three questions to meet the objective of the research.

- Is geostrategic challenge emerging in South Asia?
- What are the issues and challenges of the Island nation in South Asia?
- How much is Nepal Sri Lanka relation significant to emerging challenges?

Scope of the study

The researcher has mainly focused on Geopolitics of Island nation, Geostrategic importance, Regional Cooperation and threat, Global Cooperation and challenges and Opportunity of regional diplomacy including military ties and air cooperation to deal with the research problem.

Organization of the study

The study has been organized into five chapters.

Chapter I: It consists of a general introduction, which mainly discusses the strategic importance of Sri Lanka, Nepal, Geography and emerging significance. The objectives, Scope, Literature review and limitations are included in it.

Chapter II: It consists of Sri Lanka in General, National Defense and Security, the Geostrategic importance of Sri Lanka, Regional Significance and Global Significance.

Chapter III: This chapter contains Nepal in General and National Defense and Security. It further includes History of Nepal Sri Lanka relation, Nepal-Sri Lanka cooperation, SAARC, BIMSTEC and Geostrategic indemnity of Nepal and Sri Lanka

Chapter IV: It will cover Nepal-Sri Lanka Defense and Security Relation, Military ties, trend and issues, Counter Insurgency, disaster, and emergency experiences and mutual lesson learned.

Chapter V: It will craft discussions on the pertinent issues and Conclusion of the paper.

Limitation of the study

In an attempt to examine the emerging strategic importance of Island Nation, the researcher recognizes the limitations of dealing with the air and maritime potential issues and the documentation on the strategy of different nations. The researcher anticipates problems on access to all information relevant to the study. Due to the constraints on the reach to national, regional strategy and global air strategy regarding the present air and maritime threat, the research will primarily be a library research. Equally, analysis of various scholars on the recent issues too is not available hence limiting the analysis to be within researcher's personal intellectuality.

Literature review

The researcher reviewed very few literature based on the scope and size of the paper. National Security of Nepal: Threats, Challenges, and Solutions written by Dr. Uma Nath Baral (Nepal) and Anup Shah (Nepal) have significantly mentioned the issues and trends of Nepalese Security.

A study conducted by Maj Gen MHS Boniface Perera, Sri Lanka, "Are Sri Lanka's growing military, diplomatic and economic relations with China a concern of regional and global power?" comprehensively describes Sri Lanka and her relations in the subcontinent and the globe.

"The Bay of Bengal: Next theatre for a strategic power play in Asia" by Mohammad Humayun Kabir and "The strategic significance of the island state of Sri Lanka" by Ramesh Somasunderam are very relevant and important references for the research.

Similarly, "Geo-strategic status of Nepal between India and China: A Security Perspective" of Rohit Kumar and "South Asia in China's Strategic Calculus" by David Scott are also relevant papers studied for the paper. Besides few International Research Journal of Social Sciences and websites are referred for enriching the analytical parts.

Chapter Two

Sri Lanka and Geostrategic status

Sri Lanka

Sri Lanka, formerly Ceylon, is an island country lying in the Indian Ocean and separated from peninsular India by the Palk Strait. It is located between latitudes 5°55' and 9°51' N and longitudes 79°41' and 81°53' E and has a maximum length of 268 miles (432 km) and a maximum width of 139 miles (224 km). In 1948, after nearly 150 years of British rule, Sri Lanka became an independent country, and it was admitted to the United Nations seven years later.

General

The country is a member of the Commonwealth and the South Asian Association for Regional Cooperation Colombo, which emerged as the main urban center during British rule, remains the executive and judicial capital of Sri Lanka. For administrative purposes, the country has been divided into nine provinces and subdivided into 25 districts.

Sri Lanka National Defense and Security

Sri Lanka, then Ceylon after getting independence as Dominion of Ceylon from British Empire on February 4, 1948, faced few threats from outside and national security was not a matter of primary concern. As Ceylon became Sri Lanka in 1972, upholding national security was one of its foremost priorities. In the late 1970s, Sri Lanka saw the emergence of the greatest threat to its sovereignty in the form of the terrorism of the Tamil separatist groups prompting more intrusive security measures. Combating one of the most organized terrorists in the world required the Sri Lankan Armed forces to grow significantly. The Sri Lanka Armed Forces encompass the Sri Lanka Army, the Sri Lanka Navy, and the Sri Lanka Air Force; they are governed by the Ministry of Defense (MoD). The three services have around 276,700 active personnel. The Sri Lanka Coast Guard is also under the purview of the Ministry of Defense but is staffed by civilian personnel.

Today Sri Lanka is one of the peaceful and stable countries in the world, and it is engaged in a concerted push to accelerate its economic development and bring prosperity to its citizens. Three decades of conflict cost Sri Lanka countless opportunities for growth. The biggest responsibility of the government of Sri Lanka, even in today's post-war situation, is to ensure the continued security of the country. Without security and stability, there will be no economic development.

Present National Security Concerns

Sri Lanka today faces a range of security threats worthy of concern, including;

- a. The possible re-emergence of terrorism
- b. The emergence of other extremist groups
- c. The worsening of ethnic divisions and communal violence
- d. The challenges of maritime security and border control
- e. The growth of organized crime
- f. Foreign interference in domestic affairs
- g. Non-traditional technology-driven threats, including social media.

Even in the present post-war situation, national security remains very much a justified concern for the government of Sri Lanka. In terms of internal security, the best response to most of the threats is the development of the intelligence services. Although Sri Lanka today has no immediate requirement for offensive military operations, it is of the utmost importance that security measures not be relaxed. Still, it is essential that the military remains in strategic locations throughout Sri Lanka, with a significant military presence in the North and East. Finally, it is of the utmost importance that Sri Lanka maintains cordial relationships with its neighbouring countries and allies through skillful diplomacy.

Geostrategic Importance of Sri Lanka

General

Sri Lanka, though a small island state, lies at the tip of the South Asian subcontinent and at the center of the Indian Ocean. Sri Lanka is a country of great geostrategic importance, owing to its deep harbors and trade-friendly location. Following years of civil unrest, Sri Lanka is now finding its feet as an influential country in South Asia for trade mainly because of its strategic location in the Indian Ocean.

Of the four largest economies of the world – US, China, Japan, and India – three are located in Asia. The busy East-West shipping route passes just six to ten nautical miles south of the island with more than 60,000 ships plying this route annually carrying two-thirds of global petroleum, half the supply of container cargo and more. Thus, Sri Lanka's situation in the nautical corridor between the East and West is not only of importance from a geostrategic perspective but also from a maritime, economics and security perspective.

Regional Significance

Since the conclusion of a nearly three-decade-long conflict in 2009, Sri Lanka's prominence in Indian Ocean politics has grown significantly. Whereas during the conflict its outlook was predominantly security-oriented, the island nation has now become prominent in economic and political matters in the region.

However, despite its role as a pioneer of South Asian regionalism through the South Asian Association for Regional Cooperation (SAARC), Sri Lanka is increasingly turning towards broader engagement with East Asia. Intra-regional trade in South Asia stands at a meagre 5 percent, and that too is heavily influenced by bilateral trade with India. The consequent shift in global economic power towards the East increases opportunities for Sri Lanka to position itself as a regional economic hub. The change in focus, however, could pose potential challenges in terms of balancing Indian and Chinese interests. Both nations consider Sri Lanka a strategic asset.

While South Asia has enormous long-term potential, in the short term significant challenges remain; particularly in the area of regional security. In order for the realization of South Asia's potential, regional agreements within the South Asian region and beyond are necessary. The vast diversity of challenges its nations face, across domains ranging from economic, social, environment and security. In addition to the tense India – Pakistan relationship, there are other areas that pose pressing governance and security challenges for the region. Some of these are non-traditional security threats including transnational crime and terrorism, religious violence, illegal migration, small arms proliferation, drug trafficking, the spread of infectious disease and climate change.

Despite many challenges, there are positive prospects for the region, It is extremely important that all South Asian states recognize the need to seriously address these challenges.

Global Significance

Sri Lanka's location has shaped its history intrinsically for millennia and will continue to be so in the future. In ancient times, it has strategic geographical advantages where global and navigational contexts were concerned. It featured prominently in the spice routes which were also called maritime silk roads. Under Portuguese rule, Sri Lanka was a crucial trading hub for cinnamon, cardamom, black pepper, and gems. The Dutch East India Company took over from Portuguese in the 1620 's which was again taken over by British during the Napoleonic Wars and the island nation was a British colony until independence in 1948. A half-millennium since the Portuguese arrived in South Asia, the Indian Ocean is once again the center of global maritime trade, and a rising global power, China, is underwriting the modernization of Sri Lanka's ports to export its goods. China's so-called "string of pearls" strategy has been to develop maritime access points along the Indian Ocean from Myanmar and Bangladesh to Sri Lanka and Pakistan. The island represents an ideal trans-shipment hub for Chinese goods branching off to Africa and the Arab states. Moreover, India has been growing concerned after an agreement made in 2016 to sell an 80% stake of the Hambantota deep-water port to a Chinese state-owned company along with the docking of two Chinese submarines in the recent past. America also now views Sri Lanka as increasingly strategic, mostly because China does. Most recently, the Millennium Challenge Corporation (MCC), an independent U.S. government agency, selected Sri Lanka for a new MCC compact (five-year grant) to encourage economic growth and reduce poverty. Similarly, the inaugural U.S.-Sri Lanka Partnership Dialogue, held in February 2016, implies a positive shift in Sri Lanka's relations with the West.

In history, when colonialism collapsed in the wake of World War II, South Asia was seen as the leader in the development of what was called the Third World. In recent years, however, the region not received the scholarly attention that it deserves. Border and water dispute are the main cause of bilateral relations classes. South Asia is not far from the global context and issues. Nuclear developments, ethnic conflicts, religion, and politics, democratization and the effects of globalization are pressuring towards instability.

Chapter Three

Nepal and Geostrategic Cooperation

General

Nepal, officially the Federal Democratic Republic of Nepal is a landlocked country in South Asia. It is located mainly in the Himalayas but also includes parts of the Indo-Gangetic Plain. With an estimated population of 26.4 million, it is 48th largest country by population and 93rd largest country by area. It borders China in the north and India in the south, east, and west while Bangladesh is located within only 27 km (17 mi) of its south-eastern tip and Bhutan is separated from it by the Indian state of Sikkim. Nepal has a diverse geography, including fertile plains, subalpine forested hills, and eight of the world's ten tallest mountains, including Mount Everest, the highest point on Earth. Kathmandu is the nation's capital and largest city. Nepal is a multi-ethnic nation with Nepali as the official language.

The name "Nepal" is first recorded in texts from the Vedic Age, the era in which Hinduism was founded, the predominant religion of the country. In the middle of the first millennium BCE, Gautama Buddha, the founder of Buddhism, was born in southern Nepal. Parts of northern Nepal were intertwined with the culture of Tibet.

Nepal was admitted to the United Nations in 1955. Nepal hosts the permanent secretariat of the South Asian Association for Regional Cooperation (SAARC), of which it is a founding member. Nepal is also a member of the Non-Aligned Movement and the Bay of Bengal Initiative. The military of Nepal is the fifth largest in South Asia; it is notable for its Gurkha history, particularly during the world wars, and has been a significant contributor to United Nations peacekeeping operations.

National Defense and Security

Nepal's military consists of the Nepali Army, which includes the Nepali Army Air Service. The Nepali Police Force is the civilian police and the Armed Police Force Nepal is the paramilitary force. Nepal spends 1.5% of its GDP on the military.

Nepal being a small, under-developed and land-locked country, threats may come in any form. For a country like Nepal, geo-politically situated between

two giant nations like India and China, external challenges to Nepal's vital interests from any of these two countries cannot be ruled out. Similarly, the current internal political, economic and social situation indicates that various threats posed to its society have also gained a matter of grave concerns. The external and internal threats to national security of Nepal in various forms are dealt with separately in subsequent paragraphs.

Though the Ministry of Foreign Affairs (MOFA) is the government agency responsible for the conduct of foreign relations of Nepal, historically, it is the Office of Prime Minister (PMO) that has exercised the authority to formulate and conduct policies related to Nepal's foreign affairs. Nepal has traditionally maintained a non-aligned policy and enjoys friendly relations with neighboring countries and almost all the major countries of the world.

Constitutionally, foreign policy is to be guided by "the principles of the United Nations Charter, nonalignment, Panchsheel (five principles of peaceful coexistence), international law and the value of world peace." In practice, foreign policy has not been directed toward projecting influence internationally but toward preserving autonomy and addressing domestic economic and security issues.

Nepal's most substantive international relations are perhaps with international economic institutions, such as the Asian Development Bank, the International Monetary Fund, the World Bank, and the South Asian Association for Regional Cooperation, a multilateral economic development association.

History of Nepal - Sri Lanka relation

Nepal and the Democratic Socialist Republic of Sri Lanka established diplomatic relations on 1 July 1957. Relations between the two countries are marked by goodwill, mutual understanding, and cooperation. Nepal opened an Honorary Consulate General in Colombo in 1975 and established Embassy in 1995. Sri Lanka has a residential Embassy in Kathmandu since 1993.

Nepal's relations with Sri Lanka rest on a strong foundation of age-old historical, social, cultural and commercial interactions further consolidated over the years with mutual goodwill and understanding. Both countries work closely within the non-Aligned Movement and United Nations and have shared views on many issues of common concern. Sri Lanka and Nepal are members of SAARC, BIMSTEC and Colombo plan. SAARC has provided opportunities to understand the problems and aspirations of our peoples. Our countries are committed to expanding the regional-cooperation for the mutual benefit of the people of the region. Together with other members of SAARC, we are endeavoring to harness our efforts and energies to develop our region as a vibrant economy. Sri Lanka is deeply appreciative of the strong commitment of Nepal to the SAARC as the current Chair.

Sri Lanka and Nepal have been engaged in a purposeful exercise of rebuilding our nations to better reflect the aspirations of our peoples. South Asia has the potential to become a major economic zone of the world. This region has the largest concentration of the population in the world and there are vast resources, potential markets and opportunities for economic growth. Sri Lanka and Nepal can work

together in reaping the economic benefits for the development of both countries. This year is significant to Sri Lanka and Nepal as both countries commemorate the 60th anniversary of the establishment of diplomatic relations.

Nepal-Sri Lanka cooperation

Both Nepal and Sri Lanka are the founding members of the South Asian Association for Regional Cooperation (SAARC) and are also members of the Bay of Bengal Initiatives for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC). The two countries share similar views on many international issues and work closely at various international forums including the UN, NAM, and WTO, among others. In 2017, Nepal and Sri Lanka celebrated the 60th Year of the establishment of diplomatic relations between the two countries.

The exchange of high-level visits at various levels has elevated the already happily existing bilateral relations to a new height. At the invitation of His Excellency Mathripala Sirisena, President of Sri Lanka, Rt. Hon. Bidya Devi Bhandari, President of Nepal visited Sri Lanka to attend the concluding ceremony of the International Vesak Day held in Kandy in May 2017. Similarly, the then President of Sri Lanka His Excellency Mahinda Rajapaksa visited Nepal in November 2014 to attend the 18th SAARC Summit held in Kathmandu and on a State Visit in March 2009. He also visited Nepal in October 2009.

During the State Visit of the president of Sri Lanka to Nepal in March 2009, Nepal and Sri Lanka signed an agreement on the establishment of a Joint Commission at the level of Foreign Ministers of both countries. The provisions of the Agreement include the cooperation in the areas of trade, finance, agriculture, industry, and development of infrastructure, science and technology, investment and other matters mutually agreed upon.

The volume of trade between the two countries remains minimal despite signing the bilateral trade agreement as early as in April 1979. Major exports from Nepal include raw hides and skins, carpets, tanning, and dyeing extracts, whereas major items of import include lead, rubber and mineral fuels. Sri Lanka has made joint venture investment in the banking and insurance sectors of Nepal. Nepal and Sri Lanka signed the Avoidance of Double Taxation Agreement in July 1999.

Lumbini, the birthplace of Shakyamuni Buddha and one of the holiest destinations for the Buddhists from around the world, has been attracting the Buddhist pilgrims from Sri Lanka every year. The Government of Sri Lanka remains supportive to Nepal's efforts to further develop Lumbini as the fountain of World Peace. Sri Lanka has also built a Monastery and a Rest House Complex in Lumbini. Cultural and religious relations have brought the people of both countries closer. The two countries signed a Cultural Agreement in July 1999. The Agreement has helped promote cultural interactions between the two countries through various types of socio-cultural exchanges.

Following the devastating earthquake in Nepal in 2015, Sri Lanka sent its rescue teams and relief materials with promptness and also participated in the International Conference on Nepal's Reconstruction. The Government of Sri Lanka

is assisting for the reconstruction of RatoMachchindranath Temple at Bungamati and AnandaKuti Bihar at Swoyambhu that were damaged in the earthquake.

Geostrategic indemnity of Nepal and Sri Lanka

The South Asian Region consists of eight countries i.e. Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka, which share their common historical ties and geography and ecological cycles. These countries also share a common colonial past except Bhutan, Nepal and most part of Afghanistan. If we recognized the history of the last sixty years of the post-colonial period of the region, then we found that South Asia has been the least recognized sub-region across the globe. Lyon asserted that "South Asia has been a region without regionalism". Nevertheless, Nepal is an amusing and mysterious country in South Asia. The country was almost closed off completely to the outside world until the 1950s.

Geo-strategic significance has always been an important factor in shaping the destiny of a country. Nepal has been well known for its strategic location and natural resource base in the world. It is sandwiched between two powerful nations, India and China. Because of its proximity to both the countries, Nepal has also been drawing the attention of world powers. Nepal's security has always been a major concern for both the neighbors. India, as a close neighbor, has traditionally played a significant role in Nepal. At present, China has also trying to make safeguard for Nepal irrespective to protect its security. As a result of which, both India and China are taking interest in Nepal mainly because of its natural resource base and for security concern. China's role is detectable as it has begun to intervene in Nepal's political process with an intention to weaken Indian influence. In addition to both, the countries want to establish a good image in the eyes of Nepal. Similar is for Sri Lanka too.

Sri Lanka, though a small island state, lies at the tip of the South Asian subcontinent and at the center of the Indian Ocean. In a vastly interconnected world, the sweeping effects of globalization; China's economic downturn; growing discontent and destabilization in the West; and India's enhanced involvement in the region as an emerging power, have all been major thrusts of global politics. Sri Lanka remains at the center of it all, enjoying great geostrategic importance, owing to its deep harbors and trade-friendly location. A review of 2016 suggests that in the coming year Sri Lanka's domestic and foreign policy decisions will likely continue to have an increasing impact on the broader dynamics of Southern Asia as a whole.

The geostrategic importance and interest of India and China are similar to both small nations. The only difference is coastal Sri Lanka and Landlocked Nepal.

Sri Lanka lies near sea lanes in the Indian Ocean that are crucial to other nation's economy and has enormous potential as a maritime nation in the Indian Ocean. Free and open seas with uninterrupted maritime trade based on the rule of law are the key to economic prosperity and Nepal can also have the benefit of it.

Chapter 4

Nepal-Sri Lanka Relation

Nepal- Sri Lanka Defense and Security Relation

Undoubtedly Nepal and Sri Lanka have different- different geographically spot in South Asia but both countries combating with common challenges and regional issues. Nepal's spot is completely landlocked and Sri Lanka's spot is Island. Nepal has never been conquered, so don't have an independent day. In history, the British had lost the war with Nepal. In terms of Sri Lanka the history with a bit different from Nepal. After independence in 1945 from British, Sri Lanka had slowly taken up security as a primary concern of the Government Ceylon. As a result, the attention is given to the National defense policy.

Border security, terrorism, regional conflict, transnational crime, ethnic-religious violence, small arms production, drug trafficking, and climate changes are our common enemies. Between this two country only one thing, not common which is maritime security threats such as piracy and human trafficking in the Indian Ocean? Sri Lanka pays attention to coastal maritime security, but Nepal pays attention to border security. Ultimately both country goal is to protect own territory.

There are have been high-level defense visits between Nepal and Sri Lanka. There is also further potential for mutually beneficial defense engagement for the regional cooperation. To keep the peace and stability in this South Asian region both countries profoundly sharing strong defense relation.

Today's this world in geopolitics, defense diplomacy refers to the pursuit of foreign policy objectives through the peaceful way of defense resources and proficiencies. After the cold war in this changing world, defense relation has transferred defense diplomacy. Nowadays defense diplomacy has played a vital role in balancing foreign affairs.

Military ties, trend and issues

Nepal – Sri Lanka's militaries have very strong ties. Nepal army and the Sri Lankan army have been exchanging seminar, workshop, and training program together in country level, regional level, and international platform. Both countries army support each other without any hesitation in the international arena including under the United National blue flag. For a long time, Nepal army has been profoundly participating in a joint military exercise with other countries USA, UK, India, China, and other nation's militaries. In coming days there is a very high chance; Nepal army will conduct a first-ever military joint exercise with Sri Lankan military. If joint exercise comes than Nepal – Sri Lanka's militaries will take height in the new dynamic of military diplomacy.

Sri Lanka's military participating every year to peacekeeping exercise "Shanti Prayas". Since 2000 that every Nepal army has been conducting multinational peacekeeping exercise to support the global peace operation initiative. Both country

militaries exchanging various level training program including academic, career development and defense college.

Counter Insurgency, disaster, and emergency experiences and mutual lesson learned

Sri Lanka's victory over the Liberation Tigers of Tamil Eelam (LTTE) in May 2009, offers interesting insights and lessons in confronting an intractable and formidable insurgency. To achieve victory, Sri Lanka transformed its military and adopted new tactics.

How does a small nation defeat an insurgency that has well-armed land, naval and air forces, that possesses a powerful and ruthless ideology, excels at information operations, extensively employs suicide bombing and terror tactics both nationally and internationally, controls a large territory and has strong global financial and moral support? How can a conventional military defeat hybrid warriors by learning and innovating in asymmetric warfare? Sri Lanka defeated the Tamil Tigers after more than 25 years of bitter and brutal conflict, and their experience contains pertinent lessons for Australia. This article explores the effective use of statecraft and diplomacy to execute a clear national and military strategy, and how that strategy was achieved through victory on the battlefield. It then examines the Sri Lankan military's significant capacity to learn, adapt and innovate in order to undergo a transformation whilst in contact with the enemy.

Meanwhile, Nepal was also under the period of decade-long insurgency. Nepal Army learned a motivating lesson from Sri Lanka's exceptional victory and new military philosophy over Insurgency.

Chapter 5

Discussion

The finding of this study clearly suggests that;

Are the large-scale air force modernization programs in Sri Lanka and Nepal motivated by the necessities of emerging in geopolitics??

Is either state's force posture designed with the primary aim of coercing, deterring, fighting or otherwise constraining the strategic options of the other?

How Island nation and Landlocked country protect own sovereignty when international sanctions happen?

Is South Asian skies are under threats from the military perspective?

How Nepal and Sri Lanka can combat together when consigned geopolitical pressures come from another regional challenge?

Our results in this paper revealed that there is no significant or no vast difference in country national interest whether it's Island nation or Landlocked. After all, Sri Lankan air force and Nepalese army aviation primary task are to protect the nation. Above questions have risen on the Island and landlocked nation's perspective.

Conclusion

The geo-strategic importance of South Asian Sea and Sky need not be emphasized more, and Humanitarian Assistance and Disaster Relief (HADR) form a part of combined Air Strategy and global maritime partnership for the region.

Nepal is a small, independent, remote country and like Sri Lanka has emerged out from 10 years of devastating armed conflict. Like in Sri Lanka, Nepal's limited air assets have a major role to play and had played during HADR operation. Hence, Nepal Defence Force Aviation called Directorate General of Army Aviation Service is one of the important stakeholders; and has fairly well experience in the optimum use of air assets on HADR operation in remote as well as high altitude area. These scarce air resources had been optimally used as means to meet the ends during in counter-insurgency operation by exercising various improvisations in its operational use. Nepal and Sri Lanka's air aviation and air force cooperation could be a cornerstone in our defense relationship in contemporary scenario. Our militaries shared values, interests; training and other military skill exchange program can help to boost up our bilateral relationship to protect both nations. ultimately, the two nation's air force cooperation aim must be to progressively widen the confluence of shared interest.

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STRATEGIC USE OF AIR POWER: A JAPANESE PERSPECTIVE

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ABSTRACT

This research provides some examples of strategic use of air power which can be applicable to both Japan and Sri Lanka under the current security environment, considering the geo-political similarity between the two nations.

Japan and Sri Lanka have a geo-political similarity, both being maritime nations. It is extremely important for nations surrounded by sea to ensure safe maritime transport. Today, in the Indo-Pacific region, we can see the momentum of international efforts to establish a free and open maritime order based on the rule of law. International cooperation in maritime security is steadily developing. Then, in which areas can we apply air power to attain the common strategic goal of Japanese air power, such as radar fighter aircraft and ballistic missile defence system which plays an important role in the region?

Roles in air defence

In disaster relief operations, rescue and transport air craft also have important roles to play. JMSDF's P-3C patrol aircraft fly over the Gulf of Aden for counter-piracy operations. In addition, JSDF has gained experience using aircraft in the HA/DR operations and peace cooperation activities abroad, making the most of its air power's mobility.

The areas where we can use our air power to promote the "Free and Open Indo-Pacific Strategy" are, for example, joint training, capacity building cooperation and other defence cooperation. Joint training and exercises with other nations are effective to improve response capabilities as well as to strengthen trust and cooperative relationships. JASDF has conducted bilateral and multilateral training with many countries besides the U.S. We can also use our air power in capacity building efforts in this region, sharing knowledge and skills we gained from experience in actual operations. Other defence cooperation and exchanges will also contribute to improve the global security environment.

In addition to the traditional use in air defence, by strategically using air power in areas such as joint training and capacity building cooperation, we can improve our response capabilities and strengthen cooperative relations among the nations in this region. I believe that this will enable us to accomplish our common strategic goals.

Geo-political Similarity between Japan and Sri Lanka

Japan and Sri Lanka have a geo-political similarity, both being maritime nations. It is extremely important for nations surrounded by sea to ensure safe maritime transport. Because Japan relies on sea transport from the Middle East to import energy resources, it is especially vital for the survival of the nation and a highest priority issue to ensure secure sea lanes linking Africa, the Middle East and Japan as well as freedom of navigation in the region. Sri Lanka is geographically distant from Japan, but occupies a key location in the Indian Ocean. Because of the location, it is very important for Japan that Sri Lanka keeps its peace and stability. Equally, ensuring the freedom of navigation and maritime security throughout this region is essential for the peace and prosperity of this region as a whole. Therefore, each nation has to cooperate closely and confront maritime security challenges together. Recently, Japan is promoting the “Free and Open Indo-Pacific Strategy,” whose purpose is to improve regional stability by enhancing “connectivity” between Asia and Africa through a free and open Indo-Pacific. Today, in the Indo-Pacific region, we can see the momentum of international efforts to establish a free and open maritime order based on the rule of law. International cooperation in maritime security is steadily developing. Here I would like to shift my focus to air power. In which areas can we apply air power to attain the common strategic goal in this region?

Use of Air Power in Japan

Air power has characteristics such as agility, excellent mobility, flexibility, massive strike capability and penetration capability. Japanese Self Defence Forces (JSDF) utilize air power in various areas, making the most of these characteristics. I would like to explain how air power is applied to JSDF activities inside and outside Japan.

First, I will talk a little about how we use air power within Japan. In order to respond seamlessly to a variety of contingencies, from armed attack to natural disaster, JSDF persistently engages in warning and surveillance activities in the waters and airspace surrounding Japan during peace time. Air power plays a significant roles in these activities. The Japanese Air Self Defence Force (JASDF) uses radar sites and early warning and control aircraft to carry out warning and surveillance activities over Japanese airspace. The Japan Maritime Self Defence Force (JMSDF) patrols Japan’s territorial waters using P-3C patrol aircraft. If JASDF detects any suspicious aircraft heading to Japan’s territorial airspace, fighters scramble to approach it based on information from radar sites.

The Ballistic Missile Defence (BMD) system is also one of the most important elements of air power in Japan. The JASDF’s Patriot System and other BMD sensors are linked with the JMSDF’s Aegis system and are operated under the unified command of the Joint Task Force (JTF) – BMD Commander. In the near future, a land-based Aegis-System (Aegis Ashore) will be added to this architecture and will be operated by the Japan Ground Self Defence Force (JGSDF). Together, these three systems make the BMD system more seamless and effective. It is often said that a new form of military power will be networked and integrated with air power forming the core of the force. The BMD system is a good example of this principle.

In addition to these missions, rescue and transport aircraft also have important roles to play in Japan, which has often suffered from natural disasters. In 2011, a major earthquake occurred in the eastern and northern part of Japan. It is called the Great East Japan Earthquake. The Tsunami triggered by the earthquake made the damage more destructive. In response to this earthquake, many JSDF aircraft engaged in search and rescue operations and transport operations. Some countries sent their transport aircraft to Japan to support our operation. We sincerely thank all nations who worked with us after the earthquake for lending hands in such a difficult situation. In addition to the earthquakes, Japan has often suffered from other natural disasters such as typhoon and heavy rain. In July, record heavy rain caused flooding and landslides in western Japan. In September, a strong earthquake struck Hokkaido in northern Japan. Responding to these disasters, JSDF dispatched its aircraft to carry out rescue operations and transportation of personnel and goods.

Let me talk about JSDF's air power use abroad, next. JMSDF has engaged in counter-piracy operations off the coast of Somalia and in the Gulf of Aden since 2009. JMSDF's P-3C patrol aircraft fly over the sea to conduct warning and surveillance operations. The P-3C unit conducted about 70-80% of the warning and surveillance operations carried out in the Gulf of Aden by the international community. In addition, JSDF has gained experience using aircraft in the HA/DR operations and peace cooperation activities abroad, making the most of its air power's mobility.

Strategic Use of Air Power

Then, in which areas can we use our air power to promote the "Free and Open Indo-Pacific Strategy?" I think that joint training, capacity building cooperation and other defence cooperation are possible answers to the question. I will explain each of them, giving some examples from Japan's experience.

Let me talk about joint training, first. Joint training and exercises with other nations are effective to improve response capabilities as well as to strengthen trust and cooperative relationships. JASDF has conducted bilateral and multilateral training with many countries. The training that JASDF had conducted previously was mainly for air defence, in which only fighters and AWACS or E2C participated. But recently, we are seeing an increasing trend in joint training for non-traditional security areas such as HA/DR operations utilizing transport or search and rescue aircraft.

Let's move onto capacity building. We can use air power in capacity building efforts with other countries in the region. Today, it is necessary for the international community to make collaborative efforts to address common security issues. As I stated, Japan is subject to natural disasters such as earthquakes and typhoons, and the JSDF's transport and rescue units have extensive experience with disaster relief operations. Sri Lanka also has heavy rain in the monsoon season. I think there is a hint here for another possible area for strategic use of air power. How about sharing of knowledge and skills we gained from experience in actual disaster relief or search and rescue operations with other nations that are also prone to natural disasters? Through such collaboration, we will be able to improve our response capabilities in the region together. Then, it will lead to peace and stability in the region as well as an enhanced security environment for ourselves.

Lastly, other defence cooperation and exchanges will also contribute to improve the global security environment. JSDF is engaging, bilaterally or multilaterally, in various levels and forms of defence cooperation and exchanges. We are increasing fighter and transportation unit exchanges with other countries. Defence equipment and technology cooperation is also expanding. Between Japan and Sri Lanka, not only high level exchange but also working-level cooperation is increasing. In the summit meeting held in April last year, the prime ministers of Japan and Sri Lanka shared their intention to further promote cooperation and exchanges in maritime security and safety. Since before the summit meeting, the cooperation in the maritime security field was already deepening. For example, a JMSDF Officer participates in the International Maritime Conference, Galle Dialogue, hosted by the Sri Lankan Navy every year. In April last year, a capacity building program between the two countries was launched and the JMSDF held its first Search and Rescue Seminar in Hambantota. On the other hand, cooperation between air forces has just started. Although it might be difficult to cooperate in traditional security areas because of the geographical distance, we might find a potential area for cooperation in non-traditional fields such as search and rescue or HA/DR. In August, Japanese Defence Minister Onodera visited Sri Lanka and had a defence ministerial meeting, in which both ministers exchanged their views on capacity building as an area for future cooperation.

Foundation Supporting Air Power

Now, I would like to talk about some of JSDF's efforts for future air power. The foundation of air power is advanced technology, which is progressing rapidly. It is said that military operations will be "multi-domain," to include space and cyberspace in addition to land, maritime and air domains. Military operations are going to become "cross-domain operations," which are fought across different domains. Ensuring stable use of space and cyberspace is going to be essential to achieve our missions in this new type of operation. Recognizing this, JSDF is putting effort into areas such as Space Situational Awareness (SSA) and cyber security to keep up with the new security trend.

Also, a very important basis of air power that we cannot ignore is human resources. Cutting-edge technology such as Artificial Intelligence (AI) supplements human abilities. On the other hand, it needs humans who use it appropriately. As our mission is going to be more international and diverse, it is vital to keep highly qualified personnel for the long term. However, Japan is facing a declining birth-rate and aging population. It is a matter of urgent importance to secure enough workforce both for the government and for the private sector. The Japanese government has launched an initiative in order to realize a gender-equal society. While this effort is fundamentally for the realization of the equal status between men and women, it also provides us with a solution for the coming shortage of human resources. Here, I wish to relate a major story regarding Japanese air power. In 2015 JASDF opened its door to female fighter pilots. In August of this year, 3 years after the announcement, we welcomed the first female fighter pilot in JASDF history. Compared with other countries, it may be a little late. But it is a symbolic event where Japanese air power made one big step forward into the new era.

Conclusion

I have so far talked about the strategic use of air power, giving you some examples of JASDF activities. In addition to the traditional use in air defence, by strategically using air power in areas such as joint training and capacity building cooperation, we can improve our response capabilities and strengthen cooperative relations among the nations in this region. I believe that this will enable us to accomplish our common strategic goals.

REGIONAL HUMANITARIAN ASSISTANCE AND DISASTER RELIEF ARCHITECTURES: GEO STRATEGIC IMPORTANCE OF SRI LANKA IN ADDRESSING OCEAN BASED DISASTERS

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ABSTRACT

Sri Lanka's strategic location at the Centre of the Indian Ocean Region (IOR) has, over the centuries, attracted the attention of various great powers emerging in or venturing into the Indian Ocean. IOR countries, including Sri Lanka are greatly vulnerable to varied natural disasters with differentiated effects. Many of these disasters are adequately handled by the states themselves, with the support and assistance from their local, provincial and national level first respondents, disaster management agencies and national military forces. Managing or responding to a disaster, whether it occurs at land or ocean and ensuring human security is one of the fundamental duties of any state and it is considered as a great expectation of inhabitants of any society.

IOR countries engagement in regional organizations has been quint essential to their foreign policy. It is worthwhile to study the current status of mechanisms available in responding and coordinating the IOR, with respect to Ocean- Based Disasters in the region. There are many regional intergovernmental organizations, multinational forums, regional centres and disaster response agreements in existence in the IOR mandated to disaster relief; it is doubtful whether all those strategic level arrangements are well functioning and active during Ocean Based Disaster scenarios in the IOR. This creates the concept of Humanitarian Assistance and Disaster Relief (HADR) for Ocean- Based Disasters which has potential to garner the attention of the global community toward this vital yet neglected phenomenon.

This paper identifies that the combination of three components such as; (1) Six phases of military contribution to an international disaster relief effort, (2) Available regional organizations/ other measures and (3) Sri Lanka's geo-strategic importance through a proper mechanism will ensure a safe and secure environment in the IOR. In this background it is envisaged that the IOR States have a great potential to extend a unified approach in contributing its military resources for any ocean based HADR situation with meticulous planning and engagement. The air power of IOR states with their unique capabilities can play a bigger role in responding to an Ocean- Based Disaster situation.

Therefore, **this paper aims to critically analyze the role of regional organizations, forums and agreements involved in disaster management and preparedness in the IOR with respect to Ocean-Based Disasters and it proposes how geo-strategic importance of Sri Lanka can be utilized in developing a HADR coordinating platform to response Ocean- Based Disasters.**

In this context, Sri Lanka Air Force is ready with its Doctrine 2018 to extend its fullest support in establishing a HADR Coordinating Centre for Ocean-Based Disasters under two categories: air transport operations and combat support operations. Finally, this paper suggests a revisit to existing regional disaster management arrangements, which give more emphasis on land based disasters rather than Ocean- Based Disasters, in order to device an effective platform to address Ocean- Based Disasters for the sake of all humanity.

INTRODUCTION

Sri Lanka's strategic location at the centre of the Indian Ocean has, over centuries, attracted the attention of various great powers emerging in or venturing into the region. From the *Chola* Empire¹ in the 11th century to the Portuguese, Dutch and British empires from the 16th to the 20th century, Sri Lanka has been a site of strategic contestation in the shifting geopolitical dynamics of the Indian Ocean . Further, during the World War –II the British South-East Asia Command which was based in Delhi; in April 1944, it was moved to Kandy, in Ceylon, which was nearer to the centre of Mountbatten's command.

The Indian Ocean is a good example of a situation where normative frameworks such as the UN Convention on the Law of the Sea (UNCLOS) apply in principle, but without any accompanying enforcement capacity. Hence, some of the responsibilities of maintaining security in the Indian Ocean is vested to regional partners, such as India, Thailand, and Australia, still lack the military and economic clout to each act as a security guarantor for the region. In addition, the adoption of a non-aligned foreign policy by many countries in the Indian Ocean region has resulted in the collective rejection of the possibility of a regional or extra-regional power guaranteeing regional security. These developments increasingly threaten to make the Indian Ocean a less 'governed' space.

Sri Lanka's engagement in regional organisations is a longstanding part of its foreign policy. Sri Lanka was one of the founding members of the South Asian Association for Regional Cooperation (SAARC)¹⁹, the Indian Ocean Rim Association (IORA) and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and more recently of the Indian Ocean Naval Symposium (IONS) in 2008. Sri Lanka has sought an active role in IORA, being appointed in 2017 as Lead Coordinator of its Working Group on Maritime Safety and Security. The UN Office on Drugs and Crime recently opened an office in Sri Lanka to headquarter the Indian Ocean Forum on Maritime Crime, which acts as a regional coordination platform for law enforcement against maritime crime in the Indian Ocean. At the same time, Sri Lanka has also linked with other regional security forums such as the Shanghai

Cooperation Organisation (SCO), in which it became a Dialogue Partner in 2009. Besides engagement with the above-mentioned multilateral security platforms, Sri Lanka is also party to a trilateral maritime security agreement with India and the Maldives, which has a strong focus on enhancing Maritime Domain Awareness (MDA) capabilities.

Nevertheless, IOR countries, including Sri Lanka are greatly vulnerable to different types of natural disasters with varied nature and differentiated effects. Natural disaster under the group of climatologically (Cyclones, droughts), geological and tectonically (Earthquakes and Tsunamis), Hydrological (Floods, tidal surges) origins are very common and recovering phenomena in the region. Many of these disasters are adequately handled by those directly affected, with support and assistance from their local, provincial and national level first respondents, civilians' disaster management agencies and national military forces. The national disaster management systems of IOR countries addressing those land based disasters are very strong and when the disaster is too large for the local populace and the national government, international assistance is required.

In this context it is worthwhile to study the present situation of responding and coordinating mechanisms available in the IOR with respect of ocean based disasters which could be uniquely occur from the region where world's busiest sea and air routes are located. The Indian Ocean at present is a sea of uncertainty and while navigating this space is no easy task for smaller states like Sri Lanka, this should not prevent us from thinking proactively and collectively to develop responsive frameworks for ocean based disasters.

Even though the ocean based disasters do not frequently reported in the IOR, along with future trends in using IOR for many commercial and military purposes, possibility is very high in facing such disasters. Tsunamis, collision of ships and other vessels, sinking of large vessels, fire on board and aircraft crash/emergency landings etc. are found to be some of the ocean based disasters that have more possibility to occur in the region. In the event of such a calamity, the international response is required to be well coordinated and managed from an efficient yet appropriate location in the IOR, as there can be much lukewarm response from IOR states which are more focused and concentrated on to their own land based disaster management systems which are protecting their citizens.

Nonetheless there are many regional intergovernmental organizations, multinational forums, regional centers and disaster response agreements are in existence in the IOR for disaster relief, it is doubtful whether all those strategic level arrangements are well functioning and coordinating during ocean based disaster scenario in the IOR.

Establishment of human security is one of key concerns of any nation. Free from fear and violence of conflicts and preservation of lives and properties from natural disasters whether it occurs at land or ocean, are considered as significant expectations of inhabitants of any society. Due to these reasons, governments across the world adopt numerous measures to mitigate and control such devastations. This creates the concept of Humanitarian Assistance and Disaster Relief (HADR) for ocean based disasters and it appeals the attention of the global community onto this vital yet neglected phenomenon.

This paper aims to critically analyze the functioning of regional organizations, forums and agreements involved in disaster management and preparedness in the Indian Ocean Region with respect of ocean based disasters and it proposes how geo-strategic importance of Sri Lanka could be utilized in developing a HADR coordinating platform to response ocean based disasters.

MILITARY INVOLVEMENT

UN guidelines, commonly known as the *Oslo Guidelines*, state that civilian assets are to be preferred over military when providing humanitarian assistance; this is linked to the principle of last resort. Therefore, military assistance is requested when there is an acknowledged gap between humanitarian needs and the civilian resources to meet them, and where the response is acceptable to the local population and in support of the wider relief effort. The military response must have a comparative advantage over civilian options; such advantage may be: speed of reaction, scale of effort or availability of specific resources. Notwithstanding this, the military HQs must anticipate likely requests at the onset of any humanitarian disaster situation and should offer timely advice on the suitability and availability of military support.

Military contribution to an international disaster relief effort can be split into the following six phases

Phase 1	Pre-event engagement, assessment and advice
Phase 2	Reconnaissance and assessment (military analysis)
Phase 3	Mounting and deployment
Phase 4	Supporting the relief efforts to meet basic needs and stabilise the situation
Phase 5	In extreme circumstances, and only if requested, assistance may be provided to restore the affected state's capacity and critical infrastructure to a level that enables the state to resume full responsibility
Phase 6	Transition and termination, including collating post operational lessons

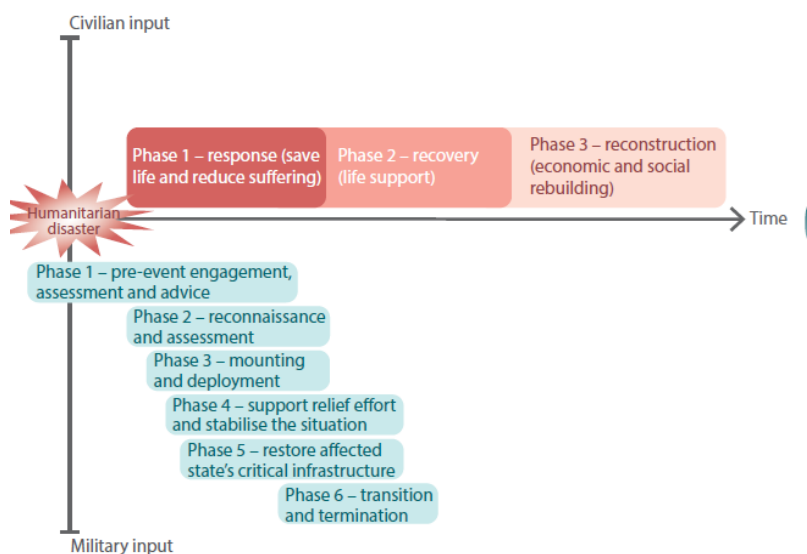


Figure 4.2 – Military and civilian disaster response timeline comparison

The land based disasters are more common and familiar to those national/international disaster management agencies (civilian or military) and they are well geared to face, handle such situations groomed with their previous experiences. Unlikely, the ocean based disasters are neither forecasted, seasonal nor previously experienced, may call the military which will often work on a much shorter timeline than their civilian counterparts. In many cases handing over roles and responsibilities of ocean based disaster to the civilian organisations and agencies is not practical due to their inherent limitations and lack of capabilities. Therefore, responding to ocean based disasters is basically a business of military.

During an ocean based HADR situation deployment of military to and from the joint operations area to be done in air and/or sea platforms, possibly including civilian charter assets. Given the time imperative of disaster relief operations, this is most likely to airlift troops particularly when forces are deployed for HADR. Concentration of IOR states' mobility assets will be force multipliers, particularly airlift, helicopters and maritime assets; the latter could include ships for bulk transfer, amphibious units, small craft and hovercraft in littoral or riverine environments. When airports are unusable, the sea may provide the only means of access. Indeed, maritime forces may sometimes be necessary to open airports.

In this background it is envisaged that the IOR States have a great potential to extend a unified approach in contributing its military resources for any ocean based HADR situation with meticulous planning and engagement. The air power available with IOR states with its unique capabilities in performing in an ocean based disaster situation can play a bigger role through a sound planning by following above mentioned six phases.

ROLE OF REGIONAL INTERGOVERNMENTAL ORGANIZATIONS DURING HADR

There are several intergovernmental grouping in the region that involves the sub-regions of Southeast Asia, South Asia, and Oceania, respectively. These groupings provide a valuable platform and forum for cooperation and collaboration, supply tools and mechanisms for more effective joint preparation and response, and often produce unifying agreements on disaster management that help provide a more potent response for member states .

ASSOCIATION OF SOUTHEAST ASIAN NATIONS (ASEAN)

The oldest sub-regional grouping is the Association of Southeast Asian Nations (ASEAN), established on 08 August 1967 with the signing of the ASEAN declaration. Ten member states comprise the sub-regional bloc: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. ASEAN has several intra-organizational group that address disaster management and response in the region. In September 2016, ASEAN members signed the “ASEAN Declaration on One ASEAN One Response: ASEAN Responding to Disasters as One in the Region and Outside the Region”. The declaration reflect ASEAN’s readiness to achieve quicker and collective strengths of the regional bloc to respond to disasters not only within the ASEAN region but outside as well.

ASEAN Committee on Disaster Management (ACDM)

The ACDM is the main ASEAN body that oversees the operational implementation of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER). The ACDM consists of the Head of each Member State’s National Disaster Management Office (National Focal Points) and meets at least once a year.

The ACDM functions as the governing board for the ASEAN Coordinating Center for Humanitarian Assistance on disaster management (AHA Centre).

ASEAN Regional Forum (ARF)

The AFR is a key regional forum for peace and security dialog in the region. The current participants in the AFR are the 10 ASEAN nations as well as: Australia, Bangladesh, Canada, China, Democratic People’s Republic of Korea, European Union, India, Japan, Mongolia, New Zealand , Pakistan, Papua New Guinea, Republic of Korea , Russia, Sri Lanka, Timor- Leate, and the United States. Since 2009, the ARF Disaster Relief Exercise (ARFDiREx) is a biennial simulation exercise designed to enhance the effectiveness of regional disaster response operations and strengthen civil-military coordination. Some of the objectives of the exercise are to access and review the capacity of ARF members and regional civil-military coordination, evaluate the effectiveness of existing HADR mechanisms and procedure for cooperation, and build ARF participant capacity to respond more effectively.

The South Asian Association for Regional Cooperation (SAARC)

The SAARC is like other regional organizations, there are many areas of collaboration. The collaboration for disaster response is included under “Environment, Natural Disaster and Biotechnology”, one of the areas of cooperation. This area of cooperation also covers climate change and the environment. The SAARC has its Disaster Management Centre (SDMC) in Gujarat India; the SAARC Metrological Research Centre in Dhaka, Bangladesh; the SAARC Coastal Zone Management Centre in Male, Maldives; and the SAARC Forestry Centre in Bhutan.

The Indian Ocean Rim Association (IORA)

IORA is the only multilateral forum that connects the littoral states of the Indian Ocean region – one of the main geopolitical theatres of contemporary global politics. IORA has now grown to 21 members, plus seven dialogue partners outside the region. The association expanded its goals to six priority areas for cooperation. These are; maritime safety and security, trade and investment facilitation, fisheries management, disaster risk management, academic, science and technology and tourism and cultural exchanges.

HUMANITARIAN ASSISTANCE AND DISASTER RELIEF (HADR) REGIONAL CENTERS

Along with the intergovernmental groupings, there are some regional centers in the region with a focus on HADR.

ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA Centre)

The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) was set up to facilitate cooperation and coordination among ASEAN States and also with the international community for disaster management and response in the ASEAN region. This Center conducts many functions such as; facilitate joint emergency response; establishment and review of regional standby arrangements for disaster response and relief; and, the review of regional standard operating procedures.

Changi Regional Humanitarian Assistance and Disaster Relief Coordination Centre (RHCC)

The Regional Humanitarian Assistance and Disaster Relief Coordination Centre (RHCC) is located at the Changi, Singapore. The RHCC was set up to support the military of a disaster- affected state by facilitate civil- military coordination. The Centre also aims to support and complement other existing regional coordination mechanisms by providing daily monitoring, assessments and shares information on regional disasters.

REGIONAL FORUMS

Along with the intergovernmental regional groupings and HADR centers, there are multinational forums or working groups that also focus on regional cooperation and civil-military coordination on HADR in the IOR. These forums provide a collaborative discussion and coordination platform for participation and response.

Regional Consultative Group (RCG) on Humanitarian Civil-Military Coordination for Asia and the Pacific

The RCG is a multi – stakeholder group that was created in 2014 to discuss humanitarian civil-military coordination for Asia and the Pacific. The RCG acts as regional forum, where civilian, military, and humanitarian actors involved in disaster response and preparedness in the region discuss response preparedness planning, facilitate the exchange of information and ideas to enable well-coordinated disaster response, and strengthen linkage with other relevant platforms. The use of foreign military assets and other issues related to humanitarian civil-military coordination are also discussed.

ASEAN Defence Ministers’ Meeting (ADMM) –Plus Experts’ Working Group (EWG) on Humanitarian Assistance and disaster Relief

The ASEAN Defence Ministers’ Meeting (ADMM) Plus is a platform for ASEAN and its eight dialog partners, or “Plus” countries, to strengthen security and defence cooperation. The “Plus” countries include: Australia, China, India, Japan, New Zealand, Republic of Korea, Russia, and the United States. ADMM agrees on five areas of cooperation: maritime security, counter-terrorism, humanitarian assistance and disaster relief, peacekeeping operations and military medicine.

REGIONAL AGREEMENTS ON HADR

In an effort to more efficiently and collaboratively respond to disaster in the region, several regional agreements on disaster management and response have been signed over the years.

ASEAN Agreement on Disaster Management and Emergency Response (AADMER)

The AADMER is a legally binding regional agreement for ASEAN with the objective of providing mechanisms to reduce disaster losses in the region and jointly responding to emergencies through regional and international cooperation. The agreement serves as platform for cooperation and coordination in all aspects of disaster management. The AADMER Work Programme for 2010-2015 to build resiliency, reduce disaster losses and assist with building capacity for joint response to disaster in the region. The current work program was concurrently developed with the “ASEAN Vision 2025 on Disaster Management.

SAARC Agreement on Rapid Response to Natural Disaster

SAARC Agreement on Rapid Response to Natural Disaster was signed at the in November 2011. The agreement was ratified by all members and entered into force in September 2016. Under the agreement, that establishment and operationalization of the SAARC Natural Disaster Rapid response Mechanism would institutionalize regional cooperation among members in natural disaster response in the region.

COMMON ISSUES FOUND IN REGIONAL EFFORTS DURING OCEAN BASED HADR SITUATION

With the specific nature of ocean based disasters which could bring incidental devastation, the emergency management can be done through reactive measures where military play the leading role. As such the responses are intrinsically intergovernmental and a broader analysis of ocean based HADR in terms of Regional Intergovernmental Organizations, HADR Regional Centers, Regional Forums, Regional Agreements and Regional Humanitarian organizations. However, it is observed that there is a void in relation to the ocean based HADR operations in the region and in order to bridge this gap a research to be conducted on how those higher level regional arrangements in the IOR responsible for disaster response and management are organized, coordinated and functioned during an ocean based disaster situation.

For example, the lack of joint effort by ASEAN in the search for the missing airliner – as opposed to the involvement of individual ASEAN states on a bilateral basis – was noticeable . During the disappearance of Flight MH370, Lim Wee Kiak, who heads Singapore’s government parliamentary committee for defence and foreign affairs, said “There’s been speculation that countries are hiding their military capabilities but it’s sad, this is a humanitarian case. This is the time for you to use your assets to help someone else,” he said in an interview published by Straits Times over the weekend

Even though there are 11 SAARC regional centers in member countries to promote regional cooperation, several of which cover the environment, climate change and natural disasters, we cannot see they play an active role in the region during an ocean based disaster. Also, it is questionable whether those IOR organizations are having an integrated approach to respond during any land based or ocean based disaster in the region. It is a known fact that the individual countries have their own national disaster management centres which are actively functioning primarily focused on land based disasters but not concerning ocean based disasters. Naturally, those countries have focused on their HADR activities more towards land based disasters due to; own population concentrations, impact of disaster on national economy, past experience, knowledge on type and frequency of occurrence of disasters etc. consequently a less precedence to ocean based disasters.

INDICATOR	REGIONAL ORGANIZATION												Total	
	AU	ECOWAS	SADC	OAS	SICA	CARICOM	CAN	LAS	SAARC	ASEAN	EU	COE		SPC
Regular intergovernmental meetings on DRM	●	●	●	●	●	●	●	●	●	●	●	●	●	13
Regional DRR framework/convention	●	●	●	●	●	●	●	●	●	●	●	●	●	13
Regional DM framework/convention		●	●	●	●	●	●	●	●	●	●	●	●	12
Specific organization for DRM					●	●	●				●		●	5
Regional/sub-regional disaster management center					●				●	●				4
Regional disaster-relief fund	●			●							●			3
Regional disaster insurance scheme						●							●	2
Regional funding for DRR projects	●										●			2
Provides humanitarian assistance											●			1
Regional rapid response mechanism	●	●				●				●	●			5
Regional technical cooperation (warning systems)		●	●	●	●	●	●			●	●	●	●	10
Joint disaster management exercises/simulations		●				●					●			3
Technical training on DRM issues/capacity building		●			●	●			●		●	●	●	7
Research on DRM/CCA issues				●		●			●		●	●	●	6
Regional military protocols for disaster assistance						●				●	●			3
Regional web portal on DRM					●	●	●			●	●		●	6
Regional IDRL treaty/guidelines				●							●			2
Total	5	7	4	7	8	12	6	3	6	8	16	6	9	

Source: Professor Elizabeth Ferrei, Institute of Study of International Migration - Georgetown University (2013)

A research was done on the role of intergovernmental regional organizations in disaster risk management to see how they stack up against one another according to 17 indicators of effectiveness reveals much important information. Out of 13 intergovernmental organizations across the world only 02 represent the IOR; the ASEAN and SAARC. All 13 organizations have positively responded to regular intergovernmental meetings on DRM and regional DRR framework/convention which see value in working together to prevent disasters and—to a lesser extent—to respond to disasters occurring in their respective regions.

At the same time, SAARC and ASEAN organizations together have negatively responded to 07 indicators showing a critical gap in the areas such as; specific organization for DRM, regional disaster relief fund, regional disaster insurance scheme, regional funding for DRR projects, provides humanitarian assistance, joint disaster management exercises/simulations and regional IDRL treaty/ guidelines.

Apart from above indicators, the SAARC organization alone has negatively responded to indicators such as; regional rapid response mechanism, regional technical cooperation (warning system), regional military protocol for disaster assistance and regional web portal on DRM.

The ASEAN organization has alone negatively responded to indicators such as; technical training on DRM issues/ capacity building and research on DRM/CCA issues.

Above 17 indicators are generally applied to role of regional organizations in disaster risk management in common and it did not specify whether those indicators are there to check the collective preparedness for land based or ocean based disasters in region. All above indicators have focused on evaluating land based disaster risk management measures where those national disaster management centres of individual countries have developed to protect its citizens and it shows the true picture of what extent that those countries are ready to share/cooperate/coordinate their national mechanisms through these regional organizations.

Therefore, the above state of preparedness in disaster risk management in land based disasters indicates how effective is the readiness of regional organizations in the IOR in responding to disasters occur in the ocean where non-regional legitimate users are faced with.

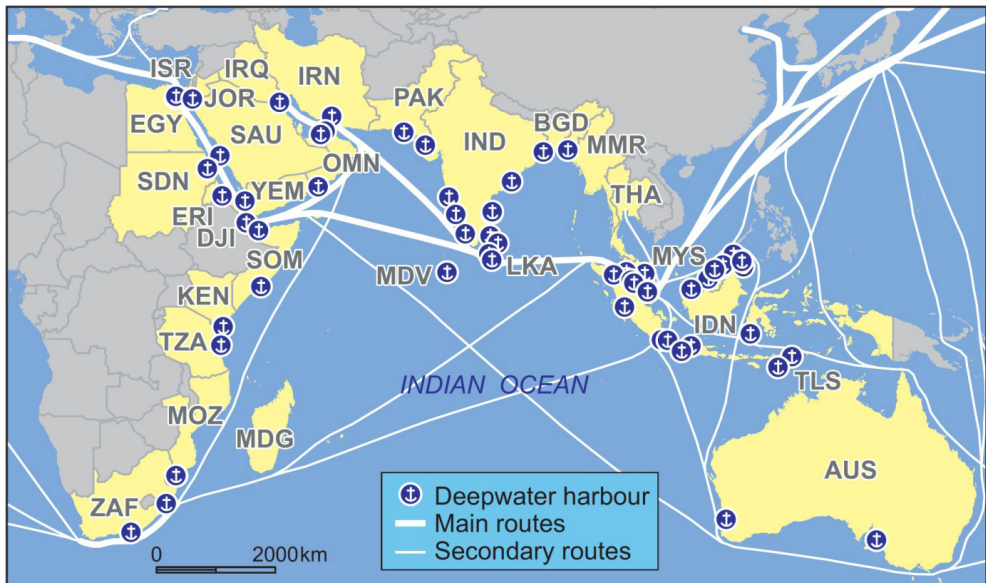
SRI LANKAN ROLE RESPONDING TO OCEAN BASED HADR SITUATION IN THE IOR

There is no doubt that those existing regional Intergovernmental Organizations, HADR Regional Centers, Regional Forums, and Regional Agreements play a significant role in preventing, mitigating, responding and recovering mainly for land based disasters. In the event where the IOR does not have an organized mechanism to respond ocean based disasters, it is prudent to see the magnitude of support that the Sri Lanka can offer in an ocean based HADR situation by exploiting its competitive advantage of being located the centre of the IOR. Almost all the IOR organizations, HADR centres, forums and agreements in the IOR have focused on potential land based HADR situations and their attentiveness to ocean based situation is obviously lack due to previously discussed reasons.

However, combination of three components such as; (1). Six phases of military contribution to an international disaster relief effort, (2) Available regional organizations/ other measures and (3) Sri Lanka's geo strategic importance through a proper mechanism will ensure a safe and secure environment in the IOR. IOR states are having a moral responsibility and strong capacity in sharing and contributing their military forces and assets during ocean based HADR situations in the IOR through a formidable integrated system in collaboration with all stakeholders. In this process, Sri Lanka is ready to offer its geo strategic location incorporated with its military capabilities to be optimally utilized to gain an extra mileage to develop an ocean based HADR plan for the IOR.

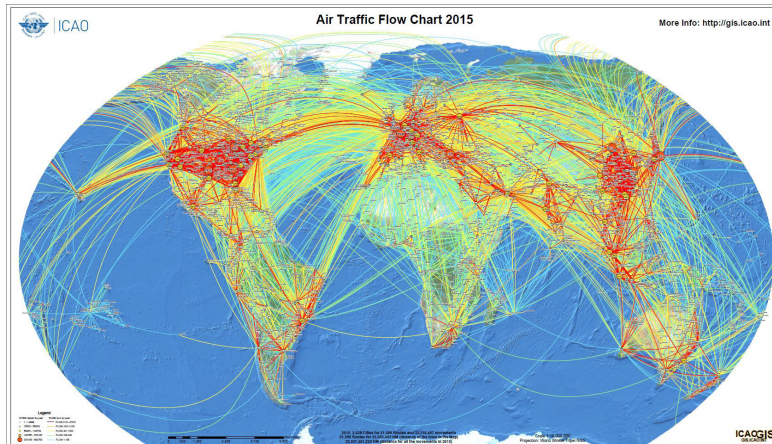
As the IOR is strong with the above strategic foundation through intergovernmental organizations, forums, agreements which are focused on disaster management in general and what is required is to have an effective affiliation of regional military forces in to an integrated ocean based HADR plan. The responsibility of all IOR countries towards ensuring a safe passage in the Indian Ocean cannot be ignored as the Indian Ocean is the 3rd largest of the world's oceanic divisions.

Even though the IOR countries have a number of opportunities to develop a common approach to HADR with the multiple organizations, forums, agreements on HADR, it seems that those aspects have not been fully exploited yet. Hence, a requirement exists to have a broader yet common HADR approach to IOR countries and Sri Lanka can be the best place to address ocean based HADR issues emerge in the Indian Ocean with its blessed geo strategic importance. The strategic location of Sri Lanka in the IOR and meticulous air power of all regional countries blend into one comprehensive HADR plan is complemented to aforementioned regional disaster management organizations, centres, forums, and agreements etc. to have a practical validation.



Source: <https://chellaney.net/2015/07/01/worlds-geopolitical-center-of-gravity-shifts-to-indian-ocean/>

The Indian Ocean is, and will probably continue to be, a major transit route for inter-continental and regional trade in commercial goods and fossil fuels. The foresight studies unanimously predict that commercial shipping along the Indian Ocean SLOCs will expand in the coming decades. The World Maritime News research estimates that the in the Indian Ocean, where the world's busiest shipping lanes are located, ship traffic grew by more than 300 percent over the 20-year period, according to the research . The increased seaborne traffic in IOR over the period of time has increased the probability of ocean based disasters in the IOR and the region needs to find an effective mechanism to mitigate probable natural or manmade ocean based disasters.



Source:<https://gis.icao.int/gallery/>

Increased air traffic in Indian Ocean Region with extended FIR makes the airspace management difficult for the region. Possibility of air related disasters is in an inclined trend and cannot be simply disregard as such disasters could create catastrophic effect to the region and the global environment at large. This compels the governments of the region to get military assistance to perform a multitude of operations to mitigate such devastations. During such situations, any government firstly depends on Air Forces considering its inherent capabilities of speed and reach. Hence, these operations are required conduct meticulously with sound planning, reliable efficiency and watertight effectiveness.

In this backdrop, six phases discussed above could be adopted when use of air power to an international disaster relief effort and ocean based HADR could be facilitated through establishing a coordinating centre in Sri Lanka which could be potentially utilized to responding any natural or manmade ocean based disaster occur in the IOR. Sri Lanka with its geostrategic location have a competitive advantage in utilizing collaborated regional air power of that provides reach, speed and range than Air/ Naval Forces located in any other IRO country when reacting to an ocean based HADR situation.

The proposed Coordinating Centre for ocean based HADR is an intergovernmental organization, which establishes communication with all country HADR Centers with the aim to facilitate cooperation and coordination of ocean based HADR efforts of IOR Member States. In operationalizing its mandate, the Regional HADR Coordinating Centre primarily works with the National Disaster Management Organizations (NDMOs) of the IOR Member States. Furthermore, this Centre also partners with international/regional organizations, forums, agreements etc which discussed above for its smooth and effective function.

CONCLUSION

R2P is an obligation of any government in the world and there is no exception for the countries in the IOR and those governments’ jurisdiction should not be limited to address only land based disasters for the protection their own citizens, it should be extended up to whatever the possible extent of its resources for the sake of humankind. As we learnt so far, the strengths and opportunities available in the IOR such as regional intergovernmental organizations, regional centres, forums, agreements and military power could be effectively utilized to minimize threats and weaknesses in fighting ocean based disasters. But the question is how far we are ready to make use of all these mechanisms together for the safety and security of legitimate users of IOR. Hence, the littoral states and other powerful countries in the IOR have the obligation of committing their capabilities through a joint HADR effort for ocean based disasters by establishing a HADR Coordinating Centre located in Sri Lanka with integrated Air Power.

Committing to above timely and humanitarian requirement, Sri Lanka Air Force is ready with its Doctrine 2018 to extend its fullest support in establishing a HADR Coordinating Centre for ocean based disasters under two categories: air transport operations and combat support operations. SLAF Doctrine (2018) identifies this requirement seriously and ready to commit its air power resources with types of air transport operations in connection with ocean based HADR in the IOR.

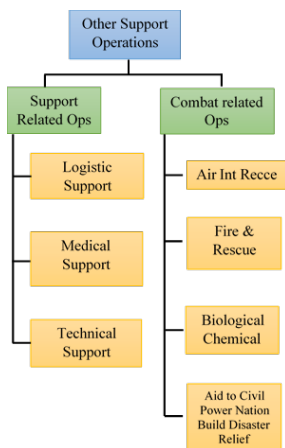


Figure 4 – Other support operations
Source: Sri Lanka Air Force Doctrine (2018)

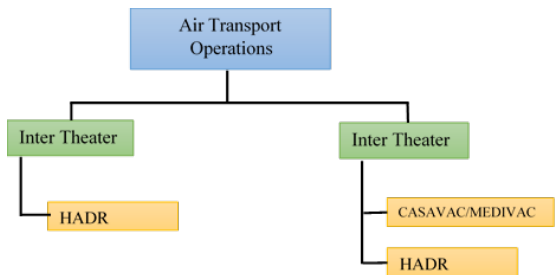


Figure 5 – Air transport operations
Source: Sri Lanka Air Force Doctrine (2018)

In complementing this HADR effort in ocean based environment of IOR, SLAF doctrine further identifies other support operations in connection with HADR. Increased employment of UAV and AI will enhance the capabilities of military involvement during an ocean based disaster. SLAF limitations in reaching the large area of FFR due to dearth of air machines and limited capabilities of available aircraft could be overcome through the collaboration of air power of IOR countries through the proposed Coordinating Centre for ocean based disasters in the IOR which surely will enrich the HADR capabilities of the region.

Sri Lanka's marked advantage in geo-strategic positioning in the IOR is therefore the best locality to deliver assistance for any ocean based disastrous situation in the region. It should not be limited to Sri Lankan EEZ or South Asian region, it should extend to the IOR as this Coordinating Centre collaboration of regional air power for ocean based HADR is essential to guarantee a safe passage for legitimate users of IOR. Ultimately, Sri Lanka can generously reach out to share a portion of advantage that she has got with its geo-strategic positioning in the IOR with other world.

Finally, along with the anticipated escalation of legitimate future users in the Indian Ocean Region through air or sea mediums, a parallel development can be expected in ocean based disasters which cannot be simply ignored. Hence, a revisit to existing regional disaster management arrangements (which are more biased to address land based disasters) to be done with a special reference to ocean based disasters for the sake of all humanity.

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“MANAGING DISASTER FROM THE AIR: THE ROLE OF AIR POWER IN STRENGTHENING SRI LANKA’S HUMANITARIAN ASSISTANCE AND DISASTER RELIEF CAPABILITIES”

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ABSTRACT

“Sri Lanka’s location is becoming increasingly vulnerable to the effects of climate change, with the country having experienced successive environmental catastrophes in recent years. This paper proposes that Sri Lanka’s airpower strategy incorporate and promotes Humanitarian Assistance and Disaster Relief (HADR) to meet national security objectives, and to increase its soft power by playing a more active role in regional disaster management. Such changes include: an emphasis on having a more effective procurement strategy; improving interaction and communication channels between civilian and military authorities; and using emerging technologies such as Artificial Intelligence (AI) to predict, map and improve the Sri Lankan military’s logistics network. The paper will also propose a series of steps to minimise the overt militarisation of humanitarian aid in the course of the above-mentioned activities.”

Introduction

The evolution of air power among the big military spenders has heralded a new era where a lethal combination of stealth, precision strike capabilities, and satellite and airborne reconnaissance has given these powers the luxury to destroy a target in a very short period of time. Given that Sri Lanka’s military, in terms of its geopolitical infrastructure largely has a defensive posture, arguably do not need vast quantities of sophisticated offensive weapons systems in the air.

This paper will outline how Sri Lanka can best orient future investments in its air power strategy. It argues that the prioritisation of Sri Lanka’s air power capabilities to serve national and possibly regional HADR (Humanitarian Assistance and Disaster Relief) needs could serve as a key pillar in Sri Lanka’s long-term air power strategic plan. HADR has emerged as important missions for major militaries around the world. The missions that were once largely left to international relief organisations have now become an important part of the security agenda of nations with significant military capabilities.

Increasing Sri Lanka’s domestic HADR capabilities would also mean that we will be better prepared in the event of a mega environmental catastrophe to deal with crisis situations and reduce Sri Lanka’s dependence on international actors. These measures, taken especially in the context of the looming climate crises could help strengthen the sovereignty and territorial integrity of Sri Lanka.

Limitations to Air Power and Smaller States

To address the question of what kind of airpower orientation should Sri Lanka pursue is a complex exercise. There must be an attempt to figure out what are Sri Lankan airpower's long-term and immediate strategic security objectives. Thereon, it is important to answer what are the basic capabilities required to fulfill those functions.

Owning an air force is an expensive proposition, especially for a smaller state like Sri Lanka. Only a limited number of countries have the economic and technical capacity to fully finance and train a multi-functional air force. There is, however, a symbolic value in maintaining a credible air power deterrence capability, as it becomes an explicit demonstration of commitments made not only to safeguarding sovereignty and national security, but to regional security as well. However, going beyond mere symbolic gestures, an air power transformation plan with a strong emphasis on HADR could enable Sri Lanka to take up a greater leadership role in the region in the arena of HADR deployment practices, research, and knowledge.

Climate Change, HADR and the Regional Context

Military involvement in relief operations is nothing new, and yet it is becoming more common due to the increased frequency and scale of natural disasters and complex emergencies in many regions of the world. A major reason for militaries to prioritise HADR has to do with the looming climate crisis. Sri Lanka will be one of the countries that climate change has a significant effect on.

Many security analysts increasingly see climate change as a threat multiplier, and the conceptualisation of climate change as a security threat has become an increasingly prevalent feature of the international relations and security discourse.

The manner in which we collectively respond to this catastrophe will remain the most significant challenge in the Twenty-First century.

Climate change, specifically the various impacts of rising global temperature, has been shown to have direct impacts on various aspects of human security.

Such impacts include disruption of agriculture by volatile weather patterns, destruction of coastal communities due to rising sea levels, health risks caused by climate-change related natural disasters, etc.

While the Intergovernmental Panel on Climate Change stated that some regions of the world might experience benefits from climate change, the net assessment is that climate change is a costly process and that the costs will increase over time.

In South Asia, the detrimental impacts of climate change are becoming increasingly clear. A report prepared by the Asian Development Bank estimated that the SAARC economies would lose 1.8% of their collective GDP each year by 2050 due to climate change, a figure that would rise to 8.8% by 2100. Such losses would result from a variety of climate change effects, such as short-term crop failures and long-term decline in agricultural productivity; the spread of vector and water-borne diseases such as dengue, malaria, and typhoid; depletion of coastal and marine resources (such as fish stocks) due to extreme weather events and rise in sea levels; and rising energy insecurity due to greater needs for space cooling and the possibility of electrical system failures due to extreme climate events.

In addition to the food, health, and environmental insecurities caused by climate change in the region, a recent report by the Stockholm International Peace Research Institute (SIPRI) also indicated that climate change made the possibility of violent conflict in South and Southeast Asia more likely for several reasons.

Firstly, worsening livelihood conditions caused by climate change, especially for those depending on occupations such as agriculture and fishing, can prompt them to take up illegal activities or join armed groups. Secondly, existing armed groups could increase violent acts under worsening climate conditions, especially in order to requisition food and vital supplies for themselves; alternately, armed groups operating in vulnerable communities might be able to take advantage of worsening climate conditions to dole out humanitarian aid, thereby increasing their appeal to those in the community. Thirdly, extreme climate events and crop failures would prompt mass migrations, creating large populations of 'climate refugees.

It is also noteworthy that leading military powers in the world have started to take the threats emanating from climate change seriously.

Going back to a report in 2014, the US Department of Defense published the Climate Change Adaptation Roadmap.

The document merits some serious attention in the way the relationship and climate change is framed in terms of national security interests. The report concluded that, "climate change will affect the Department of Defence's ability to defend the Nation and poses immediate risks to US national security". These assessments are backed up by a majority of climate analysts, especially from the Intergovernmental Panel on Climate Change (IPCC) scientists, which predicts that many parts of the world will experience high levels of flooding, storm surges, coastal erosion, along with droughts and heat waves, that will all contribute to increasing the frequency of political and social unrest.

Governments across the world, and especially in the Indian Ocean region will need to manage these instabilities with a combination of resourcefulness, and a greater sense of urgency than ever before. Failure to address these issues in a timely manner can create fertile ground for insurgents, and other disruptive non-state actors.

The Current State of HADR in Sri Lanka and the Role of Air Power

Against this backdrop of increasing threats from climate change-related developments, it is worth briefly examining the current state of Humanitarian Assistance and Disaster Relief (HADR) in Sri Lanka, specifically its operational structures and its effectiveness. In doing so, it will be possible to consider the role of air power and the Sri Lanka Air Force within this disaster management regime.

HADR in Sri Lanka, as in many other countries, is a multi-stakeholder process, involving the civil service, the military, the private sector, civil society, and various international actors ranging from foreign militaries to international aid organisations such as the International Committee of the Red Cross. Much of the legislative and policy framework to deal with disasters came into being after the 2004 Indian Ocean tsunami, which devastated nearly two-thirds of the country's coastline and killed more than 30,000 people. The following year, the government passed the Sri Lanka Disaster Management Act No. 13 of 2005, which established a national Disaster Management Centre (DMC) to implement and coordinate national and sub-national programmes for disaster risk reduction.

The DMC's activities cover both prevention and response functions; however, its task in the event of a disaster is limited to coordination between various stakeholders providing disaster relief.

When it comes to the provision of disaster relief, it is usually the armed forces that perform a yeoman role. The Air Force, in particular, has an important part to play in providing disaster relief due to the unique and enabling qualities of air power.

Air power allows for more efficient disaster response in terms of speed, reach and height. In other words, aircraft can reach disaster-hit areas faster than road- or water-based transport; they can reach areas that have been cut off or are otherwise inaccessible to the other two forms of transport, and they can also access regions at higher altitudes as well as conduct monitoring and surveillance functions from the air. As such, air power is a vital tool in the initial phase of disaster management, allowing for rapid and effective responses.

When we examine the role of Sri Lanka's tri-forces in terms of achieving its national security objectives, there are a couple of observations that are worth noting. The first is that the Sri Lankan army's role is largely geared towards containing domestic threat perceptions, while the Air Force and the Sri Lanka Navy's power capabilities have a greater role in the broader geostrategic issues facing a relatively smaller littoral state like Sri Lanka. The second observation would be that both the Navy and the Air Force will have to take advantage of cutting-edge technology to maintain their relevance. Furthermore, it is imperative that a greater air-sea integration is brought into the long-term strategic calculations of military planners, and politicians overseeing the direction of the Sri Lankan military.

Prior to the advent of mainstream technology, HADR operations relied to a large extent on manual procedures and activities, without advanced Global Positioning Systems (GPS) or access to satellite imagery.

Accessing GPS and SATCOM systems were deemed to very expensive. However, with the revolution in mobile technologies, data sharing has become more accessible and cost-effective. However, Sri Lanka's lack of indigenous satellite capabilities means that we have to depend on neighboring countries in gathering data.

However, this is not deemed to be a significant problem as the data sharing and exchange has been forthcoming from counterparts in India, and other select countries.

Due to a number of structural issues such as inadequate funding, lack of local capacity, Sri Lanka's military has not been able to keep abreast with the technological changes. This handicap to a certain extent is an issue that also affects current HADR operations. According to officials from the Disaster Management Centre (DMC) in Sri Lanka, one of the issues that was highlighted as hardware gap pertained to the lack of night vision equipment.

The lack of night vision equipment has limited the operational capabilities of the armed forces in low-visibility and nighttime conditions.

Using Technology to Improve HADR capabilities

When discussing the applications of Artificial Intelligence (AI), the most controversial is its potential use for military purposes. The notion of AI use within the military can stoke popular fears of the deployment of autonomous weapons systems, colloquially referred to

as “killer robots”- machines that can engage in independent targeting. Nevertheless, these fears should not dissuade planners from discussing the potential of AI in the number of non-lethal uses it may hold. It is plausible that the use of AI in Sri Lanka’s military could help enhance and create efficiencies in HADR operations. There are broadly two areas Sri Lanka’s military forces could use AI to enhance HADR operations. First is in the area of logistics and supply chain management, and the other would be on ISR (Intelligence, surveillance and reconnaissance) operations using UAVs (Unmanned Aerial Vehicles).

Logistics

Logistics in an HADR context is *“the process and systems involved in mobilizing people, resources, skills and knowledge to help vulnerable people affected by disaster”*. On the use of AI in logistics and supply chain management, it is necessary to remember that one of the key characteristics of a good HADR operation plan is the availability of a self-sufficient military. A self-sufficient military is consistent with an intention to not impose any further burden on an already stressed domestic area. A significant challenge for logistics planning authorities lies in the sudden eruption of large demands, and the use of machine learning could potentially help prepare and predict these surges with greater accuracy, which will be a boon to all those involved in HADR operations. The integration of AI backed systems could potentially enhance efficiencies and help reduce cost when it comes to the military’s existing logistics and supply chain management system. The success rate of successful HADR operations dramatically increase when all relevant actors can be managed through an integrated approach, and the use of machine learning technology can help achieve the optimum levels of logistics performance.

The introduction of new technologies, however, will present their own problems. It is crucial for operations management to recognise the particular strengths and weaknesses of resorting to automation. As noted by other scholars the integration of technology into military programs can lead to moments of “technophilic hubris”- an unchecked enthusiasm about technology’s potential.

Unmanned Aerial Vehicles (UAVs)

UAVs are increasingly finding their way into operations other than military operations, with the proliferation of commercial drone technology. They are been used by a variety of both civilian, and military operators to monitor disaster relief actions such as flooding, earthquakes, and other environmental disasters. In addition, they are currently been used for safety inspections, including to monitor post-disaster infrastructure damage such as the Fukushima power plant. When it comes to Intelligence, Surveillance, and Reconnaissance (ISR) and AI – a number of countries have already put into practice. Using AI for ISR tasks can take two different forms, the first is the use of AI in UAVs. Such ‘intelligent’ unmanned systems could be used for patrolling in harsh terrains and different weather conditions, all useful features in HADR operations. AI can also be used for data analysis and interpretation. UAVs have increasingly been deployed in many HADR situations already and have proved its worth in both Search and Rescue Operations, and in the reconstruction phases. For example, thermal imaging cameras such as Forward Looking Infrared (FLIR)

systems have proven to be useful in identifying survivors, while 3D mapping technology with the use of drones can help military planners, as well as government and other civilian units to determine damage assessments in the aftermath of a natural disaster.

While UAVs do have their own limitations, they are a true force multiplier. In addition to complementing the traditional tools and techniques, UAVs can allow commanders to employ their allocated troops more effectively.

They can move freely virtually anywhere within a commander's Area of Responsibility (AOR) and provide real-time information on the situation on the ground during HADR operations.

Way Forward

To fully exploit the potential, the Sri Lankan defence establishment needs to build a close working relationship with the vibrant private technology sector both in Sri Lanka and in the region. In addition, this nexus needs to also include a greater integration of Sri Lanka's research institutes which would include various think tanks, and post-secondary institutions particularly in the STEM (Science, Technology, Engineering, and Mathematics) fields.

During the internal conflict, the Sri Lanka tri forces proved to be quite resourceful in coming up with indigenous technological solutions, and this capacity needs to be further expanded with the help of the private sector, and various knowledge hubs to jumpstart an internal defence industry. Sri Lanka could build on the Sri Lanka Air Force's current UAV program. The RPAS (Remotely Piloted Aircraft System) industry could be an entry point for a local budding defence industry that has relatively lower barriers to entry than other traditional defence enterprises, particularly anything related to traditional aeronautical initiatives. Sri Lanka could look to the manner in which the Israeli UAV sector has successfully evolved to penetrate global markets. Sri Lanka could look to create partnerships with some of these firms through licensing deals to build enough capital to set up the future infrastructure needed for a manufacturing base.

As the frequency of military involvement in HADR operations increase, it is necessary to anticipate challenges that are associated working with civilian authorities. There are inherent challenges between civilian and military actors operating in disaster areas, and these challenges could be further exacerbated in the event of a breakdown in political and civilian authority resulting from conflict or instability. When operating separately from humanitarian actors, direct military engagement in humanitarian relief can be seen by some quarters as an "erosion of the separation between the humanitarian and the military space", which in turn "may threaten to blur the fundamental distinction between these two domains". Therefore, it is important that while militaries continue to develop its hardware capabilities, they take an increased interest and contribute to on the governance frameworks such as the "Oslo Guidelines", related to humanitarian intervention and assistance.

Conclusion

A smaller state such as Sri Lanka may have several structural limitations when it comes to building a large Air Force. In a climate where Sri Lanka has to navigate an extremely tight fiscal space, leaving precious room for large-scale increases in defence budgets, Sri Lanka's Air Force will have to closely examine what capabilities are required, and how many aircraft it can realistically sustain in its future fleet. However, by constructing a well-balanced air force that is versatile and effective in a range of operations, Sri Lanka would be able to harness the full potential of airpower as an instrument of national security policy.

HADR also is an opportunity for Sri Lanka's military forces to play a greater role and share its knowledge and expertise, particularly with other smaller states in the region. It could therefore also be an important gesture to the rest of the world, of a renewal towards Sri Lanka's commitment to international citizenship. If successful, this would present itself as a fruitful avenue for Sri Lanka to gradually extend its soft power.

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ENHANCING AIR POWER CAPABILITY THROUGH GREATER JOINT INTERDEPENDENCE “DIFFERENT APPROACHES TO AIR POWER”

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Sri Lanka Army

ABSTRACT

A working definition of Air Power would be: the ability to project military force by or from a platform in the third dimension above the surface of the earth. In overall spectrum of current conflict that in existence in the region and the world the overall sea services are expanding their reach, remote sensing and precision strike capabilities. They do so by being networked into an operational connectivity of interconnected forces with reach, range and lethality against air, sea, and land-based targets. It is about reach, not range, for the operational cohesion enabled joint forces to enhance their effective employment. As the non- traditional threats are exponentially increasing in the decade ahead, the integration of all tri services efforts will give definitely leverage for the Air Power a greater reach than all other forces to exploit their capabilities. The technology and training exist to insert force to achieve discrete and defined objectives, to maneuver in the extended battle space, and to work jointly with joint forces to prevail across the full range of military conflict in any part of the globe. To achieve decisive objectives by using effective air power it needs to introduce proper mechanism to accelerate its functions by having tri-forces' doctrine, force design, material acquisition, professional education and training. With the completion of those five areas, it can influence for effective Air Power in line with present day context and for its applications.

Location of Sri Lanka in the southern tip of India lies at the crossroads of all maritime routes in the region. The strategic convergences of conflicting interests in the Indian Ocean, therefore, have a profound influence on the national security concerns of Sri Lanka. In keeping with the dynamic and evolving societal changes in the world, the Sri Lanka is susceptible to transnational crimes, transnational extremism, fundamentalism, terrorism, propagation of fundamentalist or extremist ideologies, foreign interference in domestic affairs through funding and the influence of non-state actors in creating and inciting unrest. The dynamic nature of the environment in the region and beyond mandates early identification of potential threats to the national security, their means and modes of expression, so as to prepare for a timely, cohesive and coherent response.

In the history of 'Joint War Fighting Mechanism' experienced throughout the Sri Lankan spectrum of conflict, it has been proven that the air power has played

a significant role in achieving success over irregular warfare. However, the service specific strategy and its limited offensive capabilities were preventing it from moving beyond its traditional role. Increasingly complex interests, the changing nature of spectrum of future conflicts, technological advancement in war fighting and the sophistication will create further challenges. Today the translation of success in battle to desired end is more complicated than ever before. At one end of the spectrum lies the risk of nuclear war, at the other end terrorist activities resist conventional military solution. Between these extremes lies a wide range of possible conflicts.

How a mechanism integrating land, sea, and air forces are developed to enhance greater air power capability?

Identifying external and internal threats considering the geostrategic importance of Sri Lanka, joint interdependence and how land, sea and air power should be interoperable and challenges facing in formulation of the mechanism for integration and to prove that the decisive objective of using effective air power could be achieved by having tri-forces doctrine, Force design, material acquisition, professional education, and training. War fighting domains are inextricably linked. In the future, these interdependencies will continue to grow and the successful use of tri services integration will be more dependent upon a robust and securely networked environment, including integrated and interoperable networks that will enable the air power strategy to be exploited to the maximum extent.

INTRODUCTION

A working definition of Air Power would be: the ability to project military force by or from a platform in the third dimension above the surface of the earth. In overall spectrum of current conflict that in existence in the regions across the sea connected continents and the world the overall sea services are expanding their reach, remote sensing and precision strike capabilities.

They do so by being networked into an operational connectivity of interconnected forces with reach, range and lethality against air, sea, and land-based targets. It is about reach, not range, for the operational cohesion enabled joint forces to enhance their effective employment.

As the non- traditional threats are exponentially increasing in the decade ahead is not a repeat of the past 15 years, the integration of all tri services efforts will give definitely leverage for the Air Power a greater reach than all other forces to exploit their capabilities. The technology and training exist to insert force to achieve discrete and defined objectives, to maneuver in the extended battlespace, and to work jointly with joint forces to prevail across the full range of military conflict in any part of the globe.

To achieve decisive objectives by using effective air power it needs to introduce proper mechanism to accelerate its functions by having tri-forces doctrine, force design, material acquisition, professional education, and training. With the completion of those five areas it can be influenced for effective Air Power in line with present day context and for its applications. Integrating air, sea and land and be simultaneously prepared for collective security for ensure regional security and stability.

The collective security with enhanced air power to ensure responsibility principally for territorial air defence to a more modern capable force with a border set of missions. Control of the air is the required degree of freedom in the air domain necessary for the exploitation of the air. It enables protection of Alliance interests, population, territory, forces and infrastructure. Exploitation of the air is the use of the air domain to maximize the achievement of Alliance objectives

Strategic Role of Air Force: Goes beyond territorial air defence and supporting arms/ land force by giving it a leading role in accomplishing national objectives.

ANALYSIS OF THE JOINT WAR FIGHTING MECHANISM

In the history of 'Joint War Fighting Mechanism' experienced throughout the Sri Lankan spectrum of conflict, it has been proven that the air power has played a significant role in achieving success over irregular warfare. However, the service specific strategy and its limited offensive capabilities were preventing it from moving beyond its traditional role. Increasingly complex interests, the changing nature of spectrum of future conflicts, technological advancement in war fighting and the sophistication will create further challenges. ***How a mechanism integrating land, sea and air forces be developed to enhance greater air power capability?***

It is imperative identifying external and internal threats considering the geostrategic importance of Sri Lanka, joint interdependence and how land, sea and air power should be interoperable and challenges facing in formulation of the mechanism for integration. And to prove that the decisive objective of using effective air power could be achieved by having tri-forces doctrine, Force design, material acquisition, professional education, and training.

IDENTIFICATION OF EXTERNAL AND INTERNAL THREATS CONSIDERING THE GEOSTRATEGIC IMPORTANCE OF SRI LANKA

In the global context, major powers of the world has varying interests into the Indian Ocean Region and induced different interplays by those in this region. Geopolitically, IOR has become the most important dimension of the world affairs in the recent decades in which the major powers focus has been altered due to the progressive risen of the Asian Giant. This move or the shift has adversely affected the geopolitical landscape in the global context and the regional perspective as well.

How Sri Lanka become so important with its location and why this interplay of the major powers? Recently termed the maritime space of the seas around Sri Lanka is becoming increasingly common in modern strategic and geo political discourse. Half the world's container traffic and 2/3 of the world's oil shipment now pass through these oceans while 40% of global natural gas resources and 55% of known off shore oil resources are contained herein.

Home to 4 Bn people and 60% of the world population live in this part and 3 biggest economies and 5 nuclear states and 7 of the 10 largest armies in the world. Therefore, this arguably will change the history of the world and our little island off

the coast off India sits right in the middle of it. Sri Lanka, located in the southern tip of India, lies at the crossroads of all maritime routes in the region. The strategic convergences of conflicting interests in the Indian Ocean, therefore, have a profound influence on the national security concerns of Sri Lanka.

In keeping with the dynamic and evolving societal changes in the world, the Sri Lanka is susceptible to transnational crimes, transnational extremism, fundamentalism, terrorism, propagation of fundamentalist or extremist ideologies, foreign interference in domestic affairs through funding and the influence of non-state actors in creating and inciting unrest. The dynamic nature of the environment in the region and beyond mandates early identification of potential threats to the national security, their means and modes of expression, so as to prepare for a timely, cohesive and coherent response.

The main strategy of Sea Power as “Command of the Sea” is the ability to deny use of the sea as a means of transport to an enemy while simultaneously protecting one’s own merchant shipping and the ability to use the sea to project power ashore while denying that capability to the sea. Sri Lanka becoming the hub of the Indian Ocean, as well as a key transshipment port in the Bay of Bengal. In light of the maritime and territorial security of this region and development of global trade, the Sri Lanka Government wishes to exploit the airspace over the country in a more strategic and productive way.

IMPLEMENTATION OF JOINT INTERDEPENDENCE AND HOW LAND, SEA AND AIR POWER SHOULD BE INTEROPERABLE AND CHALLENGES FACING IN THE FORMULATION OF THE MECHANISM FOR INTEGRATION

The planning and conduct of joint operations were based on co-operation and consensus between the three services. If the recent military engagements have been an indication of future battlefield then the focus of operations would be oriented to enemy’s weakness rather than his strengths, enemy activities rather than terrain, thus marking the departure from traditional strategy of attrition. The future battlefield is visualised to be one of high fluidity with no distinctive front, flanks or rear. The issue then becomes clear - the ensuing war must be fought ‘deep’ in conjunction with our Air Force and other forces so that his reserve forces remain separated from his forces in contact and both are destroyed piecemeal by eff synergisation between our air, land and sea forces. If that be so our goal should be to win a decisive victory in the next war by recourse to suitable strategy, doctrine, and technology which maximises our combat power against the adversary. One such emerging concept is the Air land Battle Doctrine incorporating the tremendous potential of high technology.

The core attributes of air power, which are unique and contribute to a wide range of effects, are speed, reach and height. Speed enables air power to exploit time and control tempo. Normally unimpeded by terrain, airborne capabilities provide unrivalled reach that permits air power to employ its capabilities at distance, including deep into enemy territory, and isolated locations.

THE SECURITY AND OPERATING ENVIRONMENT

Sri Lanka and some countries around IO are faced with threats and challenges from non-state actors, terrorism, as well as from hybrid attacks and cyber-attacks, which are more diverse, complex, rapidly evolving and demanding than at any time since the end of the Cold War.

Future challenges and threats will be transnational and multidimensional in nature and will likely have long-term consequences for peace, security and stability in the region.

INTEROPERABILITY AND INTERDEPENDENCIES

Warfighting domains are inextricably linked. In the future, these interdependencies will continue to grow. Given the trend that engagements during conflict occur in more densely populated areas, detecting and targeting, while considering the Law of Armed Conflict, will become increasingly challenging as urbanization continues to proliferate and megacities emerge. As a means of different approach to the air strategy and air power it is very vital in the future, the successful use of integrated joint forces warfighting mechanism to give a wide and extensive leverage or reach to the air force to project power.

And further the joint Air Power by all the regional allies will be more wise and prudent. Joint Air Power will be dependent upon a robust and securely networked environment, including integrated and interoperable networks that will enable JAP to be exploited to the maximum extent.

THE INTEGRATED BATTLEFIELD CONCEPT

Integrated Battle Concept is the principle of synergism i.e. “the whole is greater than the sum of its part”. The basic tenet of Integrated Battle Concept is that combat on land is integrated activities of air and maritime operations which form the inseparable parts of the whole effort aimed at applying maximum combat power against the enemy in order to achieve a decisive victory. It envisages the welding of manoeuvre and combat support arms into a combined arm and orchestration of assigned elements of the three services into a cohesive joint operations force.

Implicit to this concept is joint operations under one single operational commander who ensures the harmonisation of total effort and is accountable for the overall operation. The twin mutually supportive facets of the Integrated Battle Concept are Degradation of enemy’s combat potential and conduct of decisive manoeuvres. Degradation of enemy’s combat potential is a prerequisite and a necessary prelude to launching manoeuvre forces. The key to manoeuvre lies in the skillful execution of the principle of Indirect Approach.

What is being advocated then, is a doctrine to suit both the times as well as the emerging technologies: the future battlefield is envisaged as non linear, high tempo comb. It will feature fast moving, round-the-clock multi echeloned en attacks

with coord rear actions to disrupt our offensive as well as defensive. We need to come out on top in this kind of warfighting and can do so by sensible adoption of the Air land Battle Concept in conjunctions with Sea and synergisation on key issues both inter and intra-Services.

UTILIZATION OF DECISIVE OBJECTIVES BY USING EFFECTIVE AIR POWER

Air Power is not a matter concerning strength in term of aircraft and personnel alone. To support and air force there must be an elaborate and comprehensive infrastructure to provide a variety of skills (both on ground and in air) which are required for and operational front line air force. For depth and resilience, the nation must provide its own resources, such as the required skills, funds and air mindedness, since the ability to project a credible Air Power cannot be develop on imported attributes.

To achieve decisive objectives by using effective air power it needs to introduce proper mechanism to accelerate its functions by having tri forces doctrine, force design, material acquisition, professional education and training. With the completion of those five areas can be influence for effective Air Power to in line with present day context and for its applications.

TRI FORCES DOCTRINE

Von Clausewitz very aptly states, “War is but the extension of political will of Nation”. All military objectives are pursued and governed by political objectives. Today the translation of success in battle to desired end is more complicated than ever before. At one end of the spectrum lies the risk of nuclear war, at the other end terrorist activities resist conventional military solution. Between these extremes lies a wide range of possible conflict. The following were some of the strategic compulsions which necessitated the development of a common doctrine.

In the process of achieving decisive objectives through effective air power introduction of Joint Doctrine or tri - forces doctrine will immensely benefited to develop every aspects of future theater of war applications, because it can gather all details of tri forces historical engagements. The doctrine is the primary military document and has its foundation in historic lessons learned and theoretical analysis of war fighting.

The Doctrine defines principles on the organization, employment and operation of the Armed Forces in providing military defence of the state and carrying out other missions, through which the defence strategy of the nation-state. The doctrine lays down fundamental principles by which the Armed Forces or its components guide their action in the defence and security area to support national interests and objectives.

The doctrine supports the transition of the Armed Forces through a period of transformation, which dictates new ways of thinking and the reformation of the armed forces to face new challenges and threats.

In the process of achieving decisive objectives through effective air power introduction of Joint Doctrine or tri - forces doctrine will immensely benefited to develop every aspects of future theater of war applications, because it can gather all details of tri forces historical engagements. The doctrine is the primary military document and has its foundation in historic lessons learned and theoretical analysis of war fighting. Land battle, naval warfare and the Air warfare. By having experience of those, co-operation and co-ordination with allied and coalition forces, war fighting, employment of other arms, flexibility, defence, strategy, manpower, weapons and equipment, Operational readiness, sustainability, collective performance, and finally operational planning will be in line with proper order.

Doctrine is authoritative, but requires judgment in practical application. It is designed for commanders, those responsible for planning the development and employment of the Army/Navy/Air force and organizations carrying out education and training. Its objective is to provide, in practice, a basis for implementing its mission in peacetimes and war, today and in the future. The doctrine also serves to inform other national security structures, allies, and international bodies in the context of security and political integration activities and the principles of employment and operation of the Nation-states.

FORCE DESIGN

Organizations that do not periodically refresh themselves find that their strategies, structures and systems can become barriers to efficiency and effectiveness – even if they had previously worked well.

FORCE DESIGN AT FOUR LEVELS

Force design is a methodical review to ensure the ‘form’ of the Army/Navy/ Air Force (shape, size, structure, and accountabilities) matches its purpose and the challenges posed by current and future operational realities. The first and most important thing is to understand the drivers of change and to agree a ‘concept’ that allows us (and those who follow us) to achieve the effective Air Power purpose and meet the future’s challenges and opportunities.

The Future Air Operating Concept is designed to start that debate. Second, we then ‘organize’ to achieve our concept. Third, we ‘systemize’ to align our tactics and processes so we can achieve our objectives as efficiently as possible.

Fourth, we make long-term equipment and infrastructure decisions that support our concept and ‘optimize’ our ability to win. The application of airpower to further a nation’s strategic objectives has gained momentum over the last few years, ever since it was used with telling effect in Operations Desert Storm, Allied Force, Iraqi Freedom, and Enduring Freedom. The advent of sensors that provide accurate target intelligence, coupled with precision guided munitions (PGM), has led to effects based operations’ gaining predominance in speedy conflict resolution, with minimum attrition and collateral damage.

The Indian Air Force (IAF) is in the midst of a radical change in mind set and reorientation of its force structure that will enable it to conduct parallel warfare and simultaneously influence operations at the tactical, operational, and strategic levels. In light of these developments, we need to think, train, and fight with a strategic focus. To have better Air Power with very effective manner there has to be proper fulfillment, improvement and changers of shape, size, structure, of any organization. Air power has become an increasingly attractive option, which minimizes the risk of casualties to own forces. This will increase the pressure for the developing air systems and tactics, which keep the operator out of harm's way. Unmanned air vehicles are providing some solutions for weapon systems. Even though US stand at very strong position military air power is concern and capable of maintain command of air against any nation, cost for air systems will be a huge problem to maintain and continue the same standards but development of military capability is a requirement for a super power hence battle on military development will never end.

MATERIAL ACQUISITION, PROFESSIONAL EDUCATION, AND TRAINING

The challenges of emerging threats, new technologies, and the velocity of information demand more than a mere evolution of current C2ISR (command, control, intelligence, surveillance and reconnaissance) paradigms. We need a radically new approach that capitalizes on the opportunities inherent in those same challenges. We cannot meet the requirements of information-age warfare with "spiral development"; rather, we must have modular, distributed technological maximization that permits and optimizes operational agility. To meet the future challengers from the various threat, it also demands a determined effort to match the results to the three critical challenges and opportunities while simultaneously fitting them seamlessly into the context of joint and combined operations.

We must embrace and invest in innovation, creativity, and change a charge that applies not only to the systems we procure in the future but also to the ends, ways, and means that we command and control them. In the future, we need to invert the paradigm of large, centralized theatre C2 nodes and develop a system that issues specific direction to particular elements of combat power according to a paradigm of multiple nodes responding in parallel to guidance designed to produce desired theatre-wide effects. Determining how to do that should be the focus of the time, effort, and resources we spend on C2. This is how we should prepare for the next war rather than rely on the methods we used to fight the last one. To obtain effective Air Power there has to be proper system of material acquisition, professional education, and training.

Once overall war strategy is developed, the same methodology can be used to develop component or joint campaigns as indicated. So to achieve decisive objectives by using effective air power there has to be an involvement and greater developments of material acquisition, professional education, and training because effective Air Power has its significant capabilities as follows:

- a. Whoever controls the air generally controls the ground.
- b. Airpower is inherently a strategic force.

- c. Airpower is primarily an offensive weapon.
- d. In essence, airpower is targeting, targeting is intelligence, and intelligence is analyzing the effects of air operations.
- e. Airpower produces physical and psychological shock by dominating the fourth dimension – time.
- f. Airpower can conduct parallel operations at all levels of war, simultaneously.
- g. Precision air weapons have redefined the meaning of mass.
- h. Airpower's unique characteristics necessitate that it can be centrally controlled by airmen.
- i. Technology and airpower are integrally and synergistically related.
- j. Airpower includes not only military assets, but also an aerospace industry and commercial aviation.

Utilization of decisive objectives by using effective air power could be only achieved by tri -forces doctrine, force design material acquisition, professional education, and training. With above all study it's true that without the proper improvement and modifications of those major areas it is difficult to have effective Air Power in any nation states. Airpower today, and for the foreseeable future, possesses some innate synergetic qualities and advantages that have matured over a half century of development and refinement – airpower has the virtues of speed, range, flexibility, precision, and lethality. Only airpower has the ability to bring strategic and other high-value targets an enemy holds most dear under rapid attack in simultaneous or near-simultaneous fashion. Fulfilment of this parallel, simultaneous attribute of airpower requires information mastery of such magnitude as to constitute a fourth attribute itself, thus an aspect of modern airpower is that air power is really air and space power. Today and for the foreseeable future, it is no longer possible to state with any certainty that surface forces are the primary instruments whereby a nation secures victory in war. Historically, airpower works best when it is projected by a genuine air force.

RECOMMENDATIONS

NEED FOR A DOCTRINE

The need of a common war-fighting doctrine pitched at the level of integrated theatre command is a necessity. It should aim at orchestrating individual service skills and capabilities to a common purpose and unified aim. We also must have a single decision making authority in the event of inter-service disagreement on operational matters.

The inter-service interface without which the concept is not likely to take off needs major re-structuring and far greater emphasis. The Army interface with Air Force, in particular, must improve radically. Effective synergisation of their operations is imperative.

NEED TO ESTABLISH JOINT TRAINING SCHOOL

Train hard and fight easy should be the dictum. Realistic, integrated and joint training of air and ground crew is an operational requirement. Commander and troops must be trained and educated on the concept in a graduated structured manner. Joint service training school should undertake the training for Air Land Operation on the basis of the joint syllabus.

INTELLIGENCE

Aggressive and random probes would prove useful. Use of unarmed vehicles would provide real-time tactical information. For effective fighting of deep battles and shaping of battle areas, highly necessary to develop and integrate surveillance capabilities in concert with Air Land Doctrine. BISS (Battlefield Information Support System) must be integrated with Air Force and developed in a realistic time frame. This will go a long way in developing the Intelligence Preparation Battlefield capabilities and provide field force commander, real-time information base.

INTERDEPENDENCY

In order to effectively execute this strategy, and to emphasize the inter-dependency of domains, evolving a joint doctrine must address the following challenges, which necessitate integration between the different domains: civil-military coordination, service specific capabilities and activities, degraded environments, asymmetric/hybrid activities, proliferation and urbanization.

Set against the context of the challenges and speed of the operations in the current and future security environments, the coordination and synchronization of C2 including doctrinal interoperability will be essential in order to enable timely and seamless integration of offensive and defensive activities towards desired objectives.

COLLECTIVE DEFENCE & COOPERATIVE SECURITY

This what we emphasize is the joint air power mechanism which JAP's support to the Collective Defence task includes, but is not limited to, conventional deterrence, conventional actions, Integrated Air and Missile Defence, and nuclear deterrence.

JAP supports the political and military requirement for situational awareness and understanding while providing the political level with agile means to rapidly change posture, escalating or de-escalating through appropriate measures as required.

TRAINING

The successful execution of this strategy will require appropriate education, training and exercise at all levels from individual to organizational. Synchronizing air power within a joint campaign will require an adaptation of the Education, Training, Exercise and Evaluation Policy to include joint competencies aimed to provide understanding on all aspects of the military instrument of power.

CONCLUSION

The paper concludes that Air land battle incorporating sea is a model doctrine which can be adopted with suitable modifications keeping in view our organisational structure, philosophy, the unique environment and conflict we are likely to address. It asserts that defeat and subjugation await nations that will not invest intellectual energy in anticipating future changes in weapons, forge doctrine and strategy both appropriate to the current situation and adaptable to future conditions. The answer lies in perceiving now the possibilities for tomorrow offered by technology today.

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THE SIGNIFICANCE OF A CO-OPERATIVE SECURITY MECHANISM IN THE INDIAN OCEAN REGION “SYNERGY OF SEA POWER AND AIR POWER”

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ABSTRACT

In this paper writer's attempt is to identify the contemporary requirement of Co-operative Security Mechanism in Indian Ocean Region (IOR). This will enable to counter existing maritime threats and challenges into the region as well as our island. The existing security architecture is challenged by various transnational maritime security issues which particularly supported by non-state actors. Those are drug trafficking, gun running, terrorism, piracy, armed robbery, poaching, marine pollution, human smuggling, and illegal transfer of items, nuclear theft and IUU (Illegal Unregulated and Unreported) fishing activities. Sri Lankan key military, maritime security affiliates are Navy, Coast Guard, and Air force and Maritime Intelligence services. Regional maritime security affiliates also expected to have a better relationship with User States such as USA, UK, China, Russia, etc. Littoral States and User States in the region are highly essential to establish a Co-operative Security mechanism in order to counter transnational security issues. The maritime forces have the ability of defence in depth to interdict threats to the region. The researcher is expected to discuss about the requirement of combining Air Power and Sea Power for a Co-operative Security architecture. The concept of Co-operative security, Air Power and Sea Power will be discussed under theoretical construct of the paper.

My research problem highlighted inadequacy of existing Cooperative Security mechanism leads the path to increasing of transnational security threats and challenges in the region. This puzzling issue highlights the significance of combining Air Power and Sea Power to counter such threats. The objective of this paper is to draw attention to the Cooperative Security mechanism to this region. The researcher has selected qualitative research methods with collecting data from secondary sources and this will include scholarly articles, books, case studies, journals, etc. Further researcher will forward data with his personal observation. The requirement of Co-operative Security mechanism is at the highest peak of requirement with the existing situations in the region.

Keywords: Air power, co-operative security, sea power

INTRODUCTION

In this paper writer's attempt is to identify the significance of co-operative security mechanism in Indian Ocean Region. This will enable to formulate combine strategy for effective co-operative security mechanism by combining air power and sea power in order to counter existing maritime security threats and challenges to the IOR. The existing security architecture is challenged by various transnational security issues and IOR need to have an effective cooperative security mechanism to cover 68.5 million square kilometres (Path finder foundation, 2015) at sea. The existing security architecture is challenged by various transnational maritime security issues. Those are drug trafficking, gun running, maritime and air disasters, terrorism, piracy, armed robbery, poaching, marine pollution, human smuggling, illegal transfer of items, nuclear theft and IUU (Illegal Unreported and Unregulated) fishing activities.

Sri Lankan key military maritime security affiliates are Navy, Coast Guard, and Air force and Maritime Intelligence services.

IOR is consisted with 36 littoral states (Amin, Chadio & Abbas, 2015). Apart from that, another essential requirement of the sea routes for landlocked countries cannot be ruled out. These littoral states are consisted with maritime security units, whereas maritime security affiliates expected to have a good relationship with user states such as USA, UK, China, Russia, etc. Littoral states and user states in the region is highly essential to establish a co-operative security mechanism in order to counter transnational security issues. Providing maritime security to the IOR is one of the major challenges and writer has observed that existing co-operative security mechanism is insufficient to identify the issues at the precise time.

In this essay, writer is interested in knowing whether establishing a Maritime Domain Awareness Centre (MDAC) by combining air and maritime security affiliates in the region ensure greater protection for existing maritime security issues which harms the transnational security of IOR. Being an island nation Sri Lanka has the responsibility of protecting a huge maritime environment around the country. Geostrategic location of Sri Lanka in the IOR gives most suitable architecture for establishing Regional maritime Domain Awareness Centre (RMDAC). It is hypothesized that Lack of co-operative security mechanism can make IOR vulnerable to maritime threats and challenges. Comprehensible understanding of maritime and air theories are key factors for effective cooperation. To understand about the security dilemma in contemporary situation in IOR writer expects to discuss the theories of Security, C-operative security, Sea Power, Air Power and Maritime Domain Awareness (MDA). It is highly essential to understand about security theories to strengthen the link between protection units. Then it will be helpful to practically understand the situation and formulate a combine strategy to build a regional plan to achieve cooperative security mechanism.

METHODOLOGY AND EXPERIMENTAL DESIGN

Epistemology behind this research is social behaviour of security components by understanding the significance of co-operative security mechanism in the IOR. This broader area of social science needs to prove with logical reasoning of theories based on laws of cause and effect. The writer used qualitative methods to collect data. This will collect from secondary sources of books, articles, journals, website releases, dissertations, video and audio materials and published data of expertise in the field

of maritime security. Further, writer expected to gather knowledge of experiences from officers in the field of security and writers own observations. International practices with relevant to maritime security will be highlighted in the research. It is hypothesized that Lack of co-operative security mechanism in IOR makes the region vulnerable to transnational maritime threats and challenges.

RESULT

A. Theoretical Understanding of Security, Sea Power, Air Power and Maritime Domain Awareness

With the evolution of modern security architecture, security is highlighted especially in the field of international relations. Issues of arms race, balance of power and war and peace, are key areas of study under security. Maritime security is a major role for littoral states in IOR and the standard co-operative security system will justify the security of the nations.

The security power is always offensive. States cannot escape the security dilemma, because military expansion of power always appears offensive to the other. Establishing integrated sea and air power mechanism may witness to other regions as offensive action; however, it is important to understand the regional security environment and build a strategy to counter key non-traditional security issues. When it comes to the maritime security writer's next secondary level concept is 'Sea Power'. Sea power is larger concept than land power and air power. The maritime historian such as Admiral Mahan, Julian Corbett and modern maritime experts such as Robert Kaplan are well recognized persons who talk about maritime power.

When studying the Sea power it is required to understand the Maritime Domain Awareness. It is basically an effective understanding of anything which associated with maritime domain which could impact security, safety and economy (Till, 2013, p.307). Situation awareness is a key factor for this concept and gathering of information, intelligence and surveillance can be discussed under this concept.

Air power is finally developed field of power strategy among three dimensions. Air power was able to change the entire gamut of security after II WW's & I. The co-operative security was developed and deeply practiced after the 9/11 attacked in the USA. It was one of the major turning points in the world and contemporary security structure in our planet is so influential of it. If summarized, starting with a broader picture of 'Security' and subsequent concept of Sea Power, Air Power, Co-operative security and Maritime Domain Awareness will be discussed in following paragraphs. The researcher will be narrow down the discussion of these concepts into mainly countering of non-traditional security issues in the IOR.

B. Holistic Approach to Security and Co-operative security

The famous professor for international relation Barry Buzan five sectors of security so influential, that it has become " the canon and indispensable reference point for students of security," according to him the security of human collectiveness was affected by factors in five major sectors, those are namely military, political, economic, societal and environmental (Sheehan,2006,p.46) . Maritime security lies over all four components of above and it shows the importance of co-operative security to IOR. "The events of 11 September 2001 marked the beginning of a new era in cooperative security. On September 12, the UN Security Council passed Resolution 1368, which applied the inherent right of self-defence under the UN Charter to the

response to the terrorist attacks on New York and Washington, and called on “all states to work together urgently to bring to justice the perpetrators, organizers, and sponsors of these terrorist attacks.” This statement is remarkable in applying Article 51 to a non-state actor. Before this, Article 51 was viewed as applying only to states. This recognition that non state threats represented a major cause of security concern was consistent with the earlier work on cooperative security in the pre-9/11 era, in which cooperative security is defined as states working together to deal with non-state threats” (Mihalka, 2005). This article further highlighted that, with the rise of globalization, cooperative security is the peak of the requirement to counter transnational security issues in the world. Further significance if joint situational awareness also discussed in this document which supports the research. “The Persistent Intelligence, Surveillance, and Reconnaissance: Planning and Direction Joint Integrating Concept (JIC) provides a detailed description of required capabilities that are supportive of the situational awareness requirements” (Defence, 2008). Therefore, researcher observed that situational awareness becomes a key set of words in co-operative security. Sea Power and Air Power will be the key pillar for regional security stability and situational awareness.

C. Sea Power and Air Power to Strengthen Co-operative security

There are contradicted arguments, even among the scholars in the field of maritime warfare when defining ‘Sea Power’. However to process with this essay writer found one interesting setting for national policies, derived from sea power.

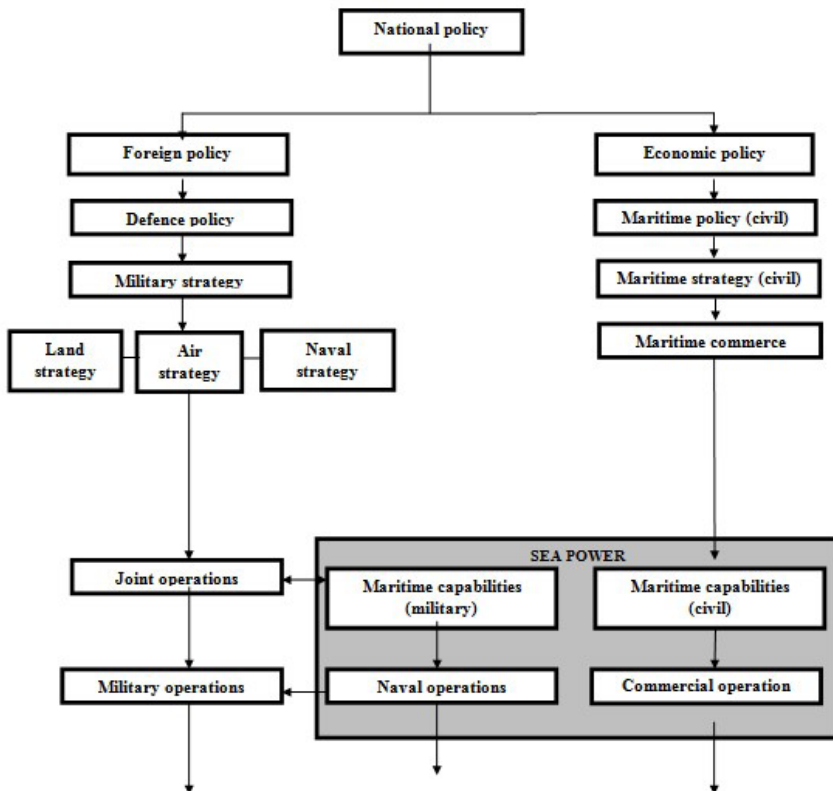


Figure 1. Sea Power and its setting (Till, 2013, p.24)

According to the above diagram writer analyses that, Sea Power is a relative concept and all countries have a certain degree of Sea Power. It is essential to discuss Sea power in the context of IOR. When combine commercial and military maritime capabilities are together we can take as a sea power. If looked at the military, maritime capabilities in the region they are basically naval ships, craft, naval surveillance systems and costal protection units. Under civil maritime capabilities, merchant shipping, fishing, marine insurance, ship building and repair can be taken. Naval operations are conducted through military, maritime capabilities and commercial operations are conducted through civil maritime capabilities. To establish Sea Power the combination between these two elements are essential. The littoral states in the region essential to established civil-military maritime security relationship in-order to counter transnational security threats and challenges in the region.

Geostrategic location of IOR countries is vitally important when analysing the Sea Power of countries individual military and civil maritime capabilities. The choke points of IOR are vulnerable for major non-traditional and traditional security issues. SLOC's (Sea Lanes of Communication) are running across the region and shipping lanes are vulnerable to the security threats. Another important area of study is energy security around IOR by protecting SLOC's and protecting of the maritime environment from navigational hazards and pollution. Observed difficulties when establishing effective Sea Power as our maritime environment required covering a huge area at sea and surveillance capabilities need to be expanded accordingly. Further inability to having combination of security effort among maritime affiliates is another area to concentrate. Extremist ideology and jihadist thoughts of the contemporary world by some segments of population in the world can be badly affected on the regional security. Illegal migration of violent groups can be a new security challenge in future IOR.

Given its strategic location geographically, IOR maritime security is critical. Air and space power was defined as "The ability to project power from the air and space to influence the behaviour of people or the course of events" (British Space and Air Power Doctrine, 2009). Expansion of maritime intelligence and surveillance capabilities by enhancing factor of 'Mobility' is one strategic solution to strengthen Air Power which writer is interested to convince. With the advent of current maritime issues, it becomes of paramount importance to take the required action and counter specific issues within a very limited time frame and space. In order to achieve co-operative security mechanism objective the speed and range become critical success factors. Maritime Patrol Aircraft (MPA) / Medium Range Maritime Patrol Aircraft (MRMPA) /Dornier Aircraft (DAC) can be utilized to enhance the maritime surveillance capabilities in future. Utilizing Offshore Patrol Vessel (OPV) for surveillance affords only the larger platform availability to conduct military operations. The key advantage of MPA/MRPA/DAC militarily far exceeds the benefits incur by OPV. MPA/MRPA/DAC will directly afford much quicker real time live data input through technology, which is an inbuilt capability of MPA/MRMPA/DAC systems and will aid the officers to take required military actions with almost zero lead times. Timely action is a critical success factor in ensuring regional security. Surveillance aircraft have the capability to cover a vast area geographically with much greater speed. The savings in terms of time are very considerable for giving its potential speed in full operational use. This can be utilized as a combine military operation with the Air Force since this is not an individual challenge to one military unit, whereas challenge to regional security in the entire Indian Ocean. For

the success of such an operation User states and littoral states, Air Power and Sea Power need to be integrated each other. Mechanism of integration, writer interested in convincing the requirement of established a regional maritime domain awareness centre in the region.

The Indian Ocean spreads up to Sothern Ocean in Antarctic continent. It is a huge area of sea water and only a few islands such as Sri Lanka, Sea Shells, Maldives, Mauritius, Madagascar and Diego Garcia are located with the presence of humans. Lack of combination between Air Power and Sea Power of countries was observed during recent maritime and air disasters in the region. There were examples of inability to identify the major hazards such as missing Malaysian plane MH 370 on 08th March 2014 in precise time. Even though with the modern technological development in the field of maritime security in the 21st century, none of the countries in the world could find the missing aircraft. This incident was an eye opener for the world to take initiative to avoid such a disaster. The writer's view is Maritime Domain Awareness is the most important concept of practice to counter such an issue in future.

When focusing for above threats and challenges to the region the lack of mutual understanding between maritime affiliates can be identified. Further, the lack of Maritime Domain Awareness was key area which writer has observed which required upgrading. The subsequent content writer will be specifically focusing on lapses in co-operative security mechanism and requirement of a regional plan to achieve maritime domain awareness.

D.

- Collective Plan to Achieve Maritime Domain Awareness We have to learn from the history. A joint operation conducted with combined force was an example of countering of terrorism in Afghanistan soil. This was a joint operation of NATO and Pakistan forces. (Backgrounder, 2006). With the existing non-traditional security issues, this is the high time to implement combine strategy for maritime security combining all maritime components. To achieve this strategy, a mechanism for maritime domain through the collection, integration and dissemination of surveillance data and intelligence is required to formulate. The writer will be focusing of formulating Maritime Domain Awareness Centre to achieve the above national plan. National Security Presidential Directives of USA mentioned "This will enable operational commanders to detect, deter and interdict adversaries. The centre will be a core unit to collect all the data together and analysing of it to implementing counter strategies for threats. The purpose of MDA is to facilitate timely, accurate decision-making. MDA does not direct actions, but enables them to be done more quickly and with precision" (National Maritime Domain Awareness Plan (NMDAP), 2013) Writers proposing methods for effective MDA are as follows. Information and surveillance data gathered from various sources of maritime affiliates need to centre in to 'Regional Maritime Domain Awareness Centre'. – This is basically gathered from maritime
- The gathered information required to be analysed via staff officers of different security components. (Working Staff of the centre proposed to represent each security component such as Navy, Air force, Civil Aviation, Coast guard of respective countries)

- The staff officers required for sharing of information and data among the security affiliates to distribute among nations which will enable to take decisions quickly and with precision.
- Processed intelligence must be prioritized according to threat axis to the region and required to identify the non-traditional security issues and disseminate into the relevant authority. According to the intelligence reports, naval and air operations can implement with using of sea and air power of respective countries.
- Further, gathered intelligence required to forward to strategic level decision makers to create national policies in individual countries as well as to develop the co-operative security architecture. This stage the changes of strategies in security in regional as well as extra regional countries are essential. (Discussion of lapses in co-operative security arrangement architecture such as combination of modern surveillance equipment's , MPAC, OPV, satellite technology and space power .etc.)

By process of above steps quick, accurate and timely results can be achieved by security components. This will enable to establish Sea Power and Air Power in the region as a combine security strategy around IOR waters. It's a fact that understanding of theories and concepts under Co-operative Security, Sea Power, Air Power and MDA is very important to formulate combine strategies to counter vulnerabilities to the IOR. Finally, as an outcome of the research following figure 2 illustrates the basic structure of a Regional Maritime Domain Awareness Centre (RMDAC) and this has been developed by the author. Understand the realistic nature of the existing security issues. The comprehensive understanding of Sea Power, Air Power and 'Maritime Domain Awareness' are very important in the field of maritime warfare. The conceptual understanding of these theories is the key success for the practical usage of maritime operations. The identification of possible traditional and non-traditional security issues to the IOR in precise time is vitally important to create policies by the strategic level decision makers in the nations. Naval warfare is an art and deep study of military strategies by practitioners is one of the important factors for the security in the region. Military maritime capabilities of User States and Littoral States are the outermost layer of defence, which will provide security to IOR by safeguarding maritime environment. Effective collaboration among maritime security affiliates is essential to process with this momentum.

The existing co-operative security structure in IOR is the lack of a proper mechanism of intelligence and surveillance sharing location. The significance of the naval contribution to strengthen the regional security of IOR clearly needs to be identified by the maritime stakeholders. To achieve this success formulating of 'Regional Maritime Domain

Awareness Centre' was the core unit that the writer tried to convince in this paper. The expected areas to be developed are new surveillance technology, sharing of information and data between security components, knowledge of security human and naval and air diplomacy. Maritime cooperation, sharing of intelligence and data across borders and sectors, joined maritime domain awareness is important of collaboration.

This is the time the Sri Lanka Navy to initiate and proposed this new concept of ‘Regional Maritime Domain Awareness Centre’ by combination of essential security components in user states and littoral states. The structural arrangement of RMDAC and the grand strategic level decisions proposed to be discussed in the international security forums. This grand strategy will help to establish a co-operative security mechanism in Indian Ocean Region.

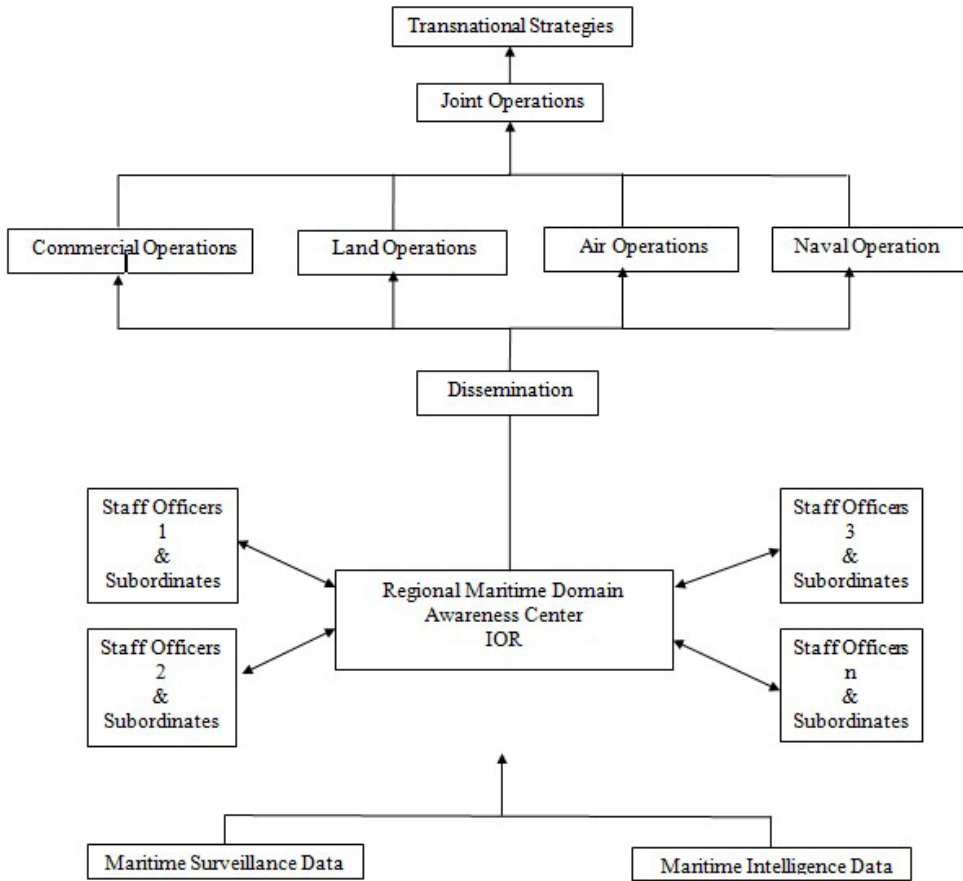


Figure 2. Regional Maritime Domain Awareness Centre (Developed by author)

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PROFILES OF THE AUTHORS



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Air Vice Marshal AHM Fazlul Haque joined Bangladesh Air Force as a Flight Cadet in 1983 and was commissioned in 1985 in General Duties (Pilot) branch. He holds several masters including Master of Science in Defence and Strategic Studies from University of Madras, India, Master of Science in Strategic Studies from National Defence University, China, Master of War Studies from National University, Bangladesh and Master of Business Administration from Institute of Business Administration, University of Dhaka, Bangladesh. He has attended a number of professional courses both at home and abroad and served in various command, instructional and staff appointments in different capacities. He has also served as Directing Staff both at Staff College and Armed Forces War Course at National Defence College Mirpur. Presently, Air Officer is commanding a Bangladesh Air Force Base.



Pilot Colonel Sanjeeb Ghimire is the Chief Operation Officer of Directorate General of Army Aviation, Nepali Army, Kathmandu; and Chief Pilot of Military Air Operation, Mid Air Base, Kathmandu. He is a graduate of the Tribhuvan University, Nepal. He is an unconventional air to ground combat pilot who claims more than 8000 flying hours from a wide range of helicopters including the B- series and Mi -17 during the last 27 years. Presently, he executes and evaluates all army aviation ground, space programs to ensure the operational and HADR readiness. Additionally, he directs researches to promote safety awareness and mishaps prevention, evaluates corrective actions and ensures their implementation.



Colonel Katagiri is the Chief, Defense Strategic Research Office, Centre for Air Power Strategic Studies (CAPSS). She entered the Japan Air Self Defence Force as an Officer Candidate in 1998. After completing the basic training, she served in a few operational units under the Air Defense Command. Her career also includes various staff positions at Internal Bureau, Joint Staff, Air Staff Office, and Air Defense Command Headquarters. She was graduated from the Graduate School of Security Studies in National Defense Academy and obtained a master's degree in Security Studies in 2004.



Air Vice Marshal Sagara Kotakadeniya joined the Sri Lanka Air Force in July 1985 and after a long journey he is presently serving as the Director Logistics at the Sri Lanka Air Force Head Quarters. He is a graduate of the prestigious National Defence University Beijing, PLA China and holds a Master's degree in Defence and Strategic Management Studies from the University of Madras, India. Presently, he is reading for his Masters in International Relations at the University of Colombo. Air Vice Marshal Kotakadeniya has attended different professional courses including Junior Command and Staff Course, Flight Safety and graduated from the Defence Services Command and Staff College Wellington, India and National Defence University Washington DC, USA.



Mr. Malinda Meegoda is a Research Associate at the Lakshman Kadirgamar Institute of International Relations and Strategic Studies (LKI), the think tank of Sri Lanka's Foreign Ministry. Malinda holds an honors degree in International Cooperation and Conflict Studies from the University of Saskatchewan (Saskatoon, Canada). Malinda's research interest includes Arms Control, Climate Change, and International Development. His writings have appeared in a number of major Sri Lankan newspapers, such as The Sunday Times, and The Daily Financial Times. In addition, he has also written for the regional digital security platform, 'South Asian Voices'- hosted by the Stimson Centre in Washington, D.C.



Major General K. P. Aruna Jayasekera joined the Sri Lanka Army as a commissioned Officer in 1985. He is a graduate of Defence Services Staff College, Wellington - India, National Defence University of the Peoples' Liberation Army, China and National Defence University in Washington DC. The Officer has obtained 3 Masters including Defence & Strategic Studies from University of Madras, War Studies & Defence Management from the National Defence University of Islamabad Pakistan and Strategic Studies and Development Studies from Bangladesh University of Professionals. Presently he is the General Officer Commanding of No 22 Infantry Division of Sri Lanka Army.



Rear Admiral Meril Sudarshana joined the Sri Lanka Navy in 1986 as an Officer Cadet and followed his initial training at the Naval and Maritime Academy, Trincomalee. He is a graduate of Command and Staff College, Wellington India and also a graduate of the National Defence University Beijing, China. He is conferred with three master's degrees from University of Madras, National Defence University Washington DC and National Defence University Beijing. He has held many important appointments such as Director Naval Personnel, Director Sports, Deputy Area Commander Northern and Eastern Naval Areas and presently, Rear Admiral Meril Sudarshana holds the appointment of the Director General Personnel at Naval Headquarters

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