Sri Lanka Navy Journal

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Sri Lanka Navy Journal is a bi-annual publication which provides the opportunity to discuss matters relevant to national interest and current global affairs. It serves as a potent medium for all serving members of the Navy to present their ideas, express their opinions and share their insights on subjects of national and global importance whilst enabling them to improve their writing skills and broaden the knowledge horizon of their knowledge.

The journal publishes papers and articles of professional interest to the Sri Lanka Navy.

Articles published in this journal reflect only the opinions of the authors and not necessarily those of the Sri Lanka Navy.

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FOREWORD

It is my pleasure to place a congratulatory message to the 7th edition of Sri Lanka Navy bi-annual Journal. This is another remarkable step that has been taken by Sri Lanka Navy to improve reading and writing skills of naval personal in order to maximize the qualitative aspect of the naval personnel and their career development.

Sri Lanka Navy journal was first published in year 2016 to offer efficacious academic platform for the promising writers to share their research articles, book reviews and other academic articles within the naval fraternity.

Writing has an intrinsic creative value which enhances the ability to compose thoughts through written articulation and ink their ideas in an effective and professional manner. Therefore, this journal will be an ideal opportunity for our officers and sailors to develop their habit of professional writing.

I take this opportunity to commend the Editorial Board for their tireless effort, dedication and commitment in compiling this edition of the journal.I am sure that the guidance and the support extended by the board would definitely help to complete this edition.Further, I would like to extent my heartfelt thanks and best wishes to the authors who contributed to this journal with their scholarly work.I encourage others to engage in same manner and contribute to the future edition.

I wish and hope this journal will have very wide circulation and enhance the enthusiasm of writing and reading habits of naval personnel.

KKVPH DE SILVA, WWV& Bar,RWP,RSP,VSV,USP, ndc
Vice Admiral
Commander Of the Navy

MESSAGE FROM THE EDITORIAL BOARD

Realizing the need of the hour, the First ever Sri Lanka Navy Journal was started 5 years ago and we had anticipated that a journal with such a broad coverage of topics would attract potential authors with good contribution. We are satisfied that our expectation has become a reality.

Written communication has great significance in today's fast moving world. It is an innovative activity of the mind. Effective written communication is essential for academic development. Speech comes before writing. But writing is more unique and formal than speech. Therefore, the Navy journal provides a great opportunity in enhancing writing skills of all navy personnel.

Today, Navy Journal is a home for researches and studies related to naval and maritime affairs in Sri Lanka. We are confident that in future we will be able to witness the growth of the journal both in quality and quantity. Further, We have observed the evolution of our journal with ever increasing interest from potential authors.

We wish to express our whole hearted gratitude to Commander of the Navy for being our greatest inspiration and source of strength for this worthy cause. The success of the journal could not be achieved without authors contribution with their subject expertise. Hence, we appreciate all authors who have contributed to the success of the journal by submitting their high-quality research papers, articles and book reviews etc.We look forward your continuous support in the future as well.

It is pertinant to mention here that, award winning entries of Late Admiral Clancy Fernando Essay Competition too have been included in this issue as a mark of admiration for them for their effort in presenting quality and informative articles for the betterment of the Navy. We congratulate the winners and wish them every success in their future endeavours.

Finally, our sincere thanks go to all those who helped us in numerous ways to bring out this edition a success and to the Naval Printing unit for a job well done.

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Commodore Kalana Jinadasa, RSP, USP, NWC, psc, MBA, Dip in CR

Commandant - Naval & Maritime Academy

"Indian Ocean Region has become a critical space in connecting the Asia and the Pacific that continually face many traditional and non-traditional threats in the 21st century. IFCs are considered as the most effective way of sharing information and IO has two IFCs in Singapore and Madagascar which are not adequately cover the long distance involved between the two IFCs. Sri Lanka would be the ideal location to fill the vacuum in enormous ocean space of Indian Ocean by providing its strategic location for maritime safety and security of the region".

Introduction

Today, despite the jet and information age, 90 percent of global commerce and two thirds of petroleum supplies are transported by sea. With the economic development and the energy demand, the East -West Sea Line of Communication (SLOC) that passes across the Indian Ocean Region (IOR) has become busy and strategically important. The Indian Ocean (IO) accounts for one half of the world's container traffic and 70% of the petroleum products. It is in this context that Asia as a region is experiencing the highest economic growth in the world and much is talked about that and hence will refrain from dwelling into details.

IOR stands as the third largest water body in the world which covers nearly 74 million square miles and is nearly 10,000 kilometres (6,200 mi) wide at the southern tips of Africa and Australia. Just a mere thought about the enormity of challenges in securing the Ocean is mind boggling. The ocean is a domain that the nature has trusted upon the mankind with great opportunities as well as challenges. When we have the task of predicting the outcomes of different dynamics involved in specific security related issues, we always have to be mindful of the Space that we have to deal with.

Indian Ocean Region has become a critical ocean space in connecting with Asia and the Pacific and a vital link and economic lifeblood of the world's economic growth. Hence, all of us with all our vigour should strive to contribute to make the ocean around us remain a safe, stable and a peaceful space and a dependable conduit.

The Diversities of IOR is second to any other region due to many contributory facts to its unique position in global geopolitics.

1. The IOR houses one-third of the world's population,
2. It holds 65% of the known reserves of strategic raw materials,
3. 30% of Gas and accounts for more than half of the world's oil exports.
4. Abundance of natural deposits of uranium, tin, gold, and diamonds.
5. Largest producers of rubber, tea, spices, and jute.
6. Extreme diverse economies where some of the richest countries and some of the

fastest growing economies coexist with some of the poorest countries in the world with 56 littoral and hinterland countries, most of which are developing countries.

7. The region has been the arena for a large number of internal and external conflicts Post-Cold war.

8. Some of the worst-hit areas, as far as incidents of piracy, gun-running, human and drug trafficking are concerned, particularly the Horn of Africa and South-East Asia

9. And it is the de-facto home of global terrorism, with many covertly or even inadvertently aiding and abetting subversive elements.

10. The locus of 50% of the world's natural disasters.

Figure 1: The Diversity of IOR
Source: (www.google.com)

Security Concerns of Indian Ocean

Predominantly, non-traditional threats to the regional security have emerged as major threats that confront coastal states in the IOR. The increasing demand for energy and goods have demanded more shipping and create busy and vulnerable sea routes across the IOR. Therefore, all nations whose economy is predominantly dependent on seaborne trade are concerned about the security of the IOR. Even though many global regional organisations are at work, manifestos of some of these organisations are not firmly facilitating to the regional security and safety concerns.

It is widely accepted that a single country or organisation cannot ensure the freedom of the seas; it has to be a collective effort. The adequacy of security architecture of any region is inextricably linked to its security outlook. In that context the challenges are many and most prominent is the "SPACE", which could only be dealt with partnerships, cooperation, technology and more importantly sharing of available information of domain awareness.

Such a vast ocean space provides many opportunities coupled with challenges and correspondingly demands efficient and prudent management. It is not difficult to comprehend the strain on Space, Time and Force, in ensuring maritime security in this region. Geography makes it difficult to monitor events as they occur, and to move assets for expeditious response. Therefore information sharing is critical for maritime domain awareness, and hence it has become a common thread championed at various security dialogues and forums.

Strategically important SLOCs in vast sea area and increasing threats of non-state actors

are becoming potential security issues. Reliable and updated security information needs to be transmitted among the relevant authorities. Poor intelligence and lack of surveillance will not only create vacuum for the unimpeded acts of security concerns in the area and create opportunities for various kinds of illegal activities. Therefore, cooperative measures are required among the concerned and interested nations to share the real time information and strengthen the necessary counter actions of regional navies.

It is accepted that Navies, by their action at sea influence events on land. That is the primary aim of nations to commit their blood and treasure to maintain a Naval Force. It is at a huge cost to the nation as Navies and Coast Guards are operated, and smaller nations find it harder since ships are expensive, so are the sailors who need multitude of skills and abilities and adaptability to operate in this unique environment. In an era of sequestration of defence budgets, all countries will be more judicious in applying limited resources to build partnerships with countries.

Collective efforts can create immense opportunities for the IOR forces to fight against common non-state threats. As Geoffrey Till emphasizes, the requirement of global system calls for integrated action to strengthen international partnerships and to establish favourable security conditions to ensure the future maritime security.

In addition to the efforts of regional countries of IOR, extra regional countries such as the USA, China, Japan and most of the European countries have a legitimate right to secure their SLOC in the IOR region. Most of these technically advanced navies have their own resources to ensure safety of their interests; it is the responsibility of us in the IOR to maintain maritime security cooperation with these countries by sharing Maritime Domain Awareness (MDA) already in their possession.

Maritime Domain Awareness in Indian Ocean Region

"The ability to know, so that the pre-emptive or interdiction action May be taken as early as possible"

(National Strategy for Maritime Security - USA)

Sharing of information in Maritime Domain is often primarily understood as a high-tech challenge of installing and integrating sensors such as radar stations, developing databases and anomaly detection algorithms, or visualizing data.
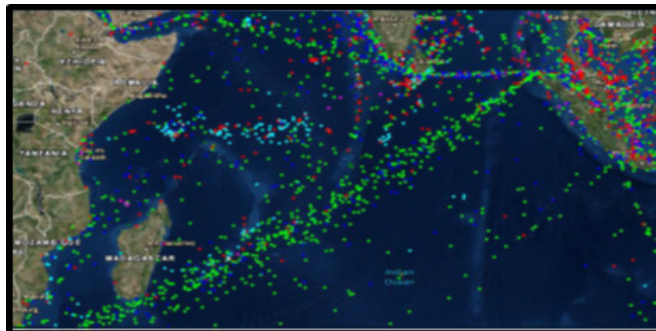
Figure 2: Information Density in IOR
Source: (www.google.com)

Other than Sensors such as Automatic Identification Systems (AIS), Cooperative Situational Information Integrated Systems (CSIIS), Maritime Safety and Security Information Systems (MSSIS), Long Rang Identification and Tracking (LRIT) systems, Maritime Electronic Highway, Computer Assisted Maritime Threat Evaluation Systems (CAMTES), Sea Link Advance Analysis (S2A) etc, vital information can be collected from human sources such as from fishermen and merchant marines. And it is an obvious fact that information based on human sources are low cost and those based on sensors are expensive. With the collected data, a complete inference can be drawn about all those marine areas that could cause potential damage with respect to safety, eco-system and the economic system which is known as "Actionable Intelligence"and through actionable intelligence, the rightful authorities can ensure proper maritime law enforcement.

Having understood the significance of the sharing of information to achieve the situational awareness of IOR maritime domain, stakeholders have collaborated in forming two Information Fusion Centers (IFC), at the two extreme ends of the IO, the IFC in Singapore, established in 2009 and the Regional Maritime Information Fusion Centre (RMIFC) in Madagascar, established in 2016. Information Fusion Centres are considered as most effective way of sharing information while achieving situational awareness in Maritime Domain.

The Objective of the IFCs are to achieve Maritime Domain Awareness (MDA) by comprehensive fusion of data from every source possible and to enhance the awareness of the member state agencies. Fusion Centres are persistently monitoring the maritime activities and collect information pertaining to MDA pillars such as Vessels, Cargo, People, infrastructure and environment.
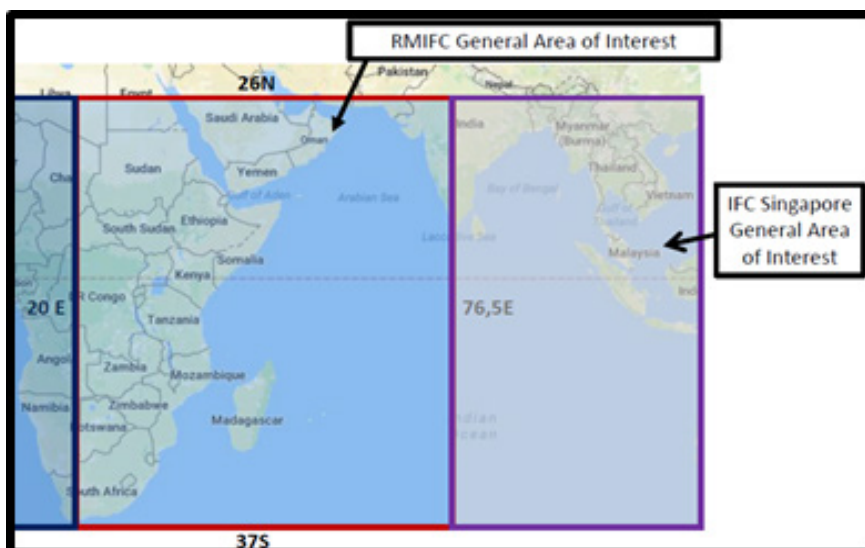
Figure 3: Area of Responsibility of IFC in IOR
Source: (www.google.com)

The Information Fusion Centre (IFC) in Singapore was established on 27 April 2009 hosted by the Republic of Singapore Navy (RSN). The objective was to share and collaborate between partners to enhance maritime security. IFC has been the pioneer agency of

providing actionable information to initiate responses by regional and international Navies, Coast Guards and other maritime agencies. Presently 16 International Liaison Officers (ILO) serving at IFC.

The Regional Maritime Information Fusion Centre (RMIFC) in Madagascar was established in 2016 as a pilot project and number of moves have been taken by RMIFC paved the way to provide necessary information for combating maritime security issues particular for East and South Africa (ESA-IO) region.

Necessity of IFC in Central Indian Ocean

Indian Ocean covers 70 millions square kilometers delineating from the Atlantic Ocean by the 20°E meridian, from the Pacific Ocean by the meridian of 146°55' E, running south from the southernmost point of Tasmania. The northernmost extent of the Indian Ocean is approximately 30° N in the Persian Gulf. It covers 20% of water body of the world. Despite of all physical mightiness, it also has greater value of geo-economic nature in terms of world maritime trade is concerned as discussed earlier. Two Information Fusion Centres in the region are situated 6000 NMs apart and predominantly catered to East and South African region of IO and far eastern region of Indian Ocean. Sheer size and the scope of the maritime security problems of IOR have made it difficult to mitigate the challenges by these two centres alone.

Therefore, considering the volume of trade transferring through the *C*entral Indian Ocean Region, it is a necessity to establish another IFC in the sub-region in addition to the already established two centres. Maritime safety and security of IOR can be reinforced by setting up of this new Centre, right at the center of the IO for enhanced visibility of the Maritime Domain.

Considering the geo-strategic location in the central Indian Ocean, Sri Lanka would become the obvious choice of preference in establishing such a facility with the support of all stake holders to augment the role of IFC and RMIFC. The East-West connecting sea route that runs closer to the southern coast of Sri Lanka made the country an important maritime domain, even during the ancient Roman and Chinese empires. Therefore, it is essential to recognize the potential of Sri Lanka in the maritime domain to foster regional cooperation for maritime security and safety. Other than the location, supplemented by the non-align and flexible foreign policy towards all regional, concerned and interested non regional nations, Sri Lanka is more conducive IFC option in the region.

IFC in Sri Lanka

The distance to Striate of Hormuz and Strait of Malacca is approximately 2000 miles and Sri Lanka is situated almost at the centre of the vital east-west SLOC. Throughout the history it has facilitated as an entry point, a midpoint meeting place, a harbour, an emporium for international merchandise and a landfall. This emphasizes that the strategic importance of Sri Lanka in history is much bigger when comparing to its small size.

The new regional organisation needs to be formed with more concern to the regional security and safety challenges. As per Professor Robert Boggs, what is needed is another institution, preferably SAARC - based, that would bring together representatives of the

civilian and military organizations. This kind of organisation can be ideal for future disaster management and humanitarian operations as well. Aavailability of an international harbour and Airport in Hambantota, which are located close proximity to the southern tip of Sri Lanka, further reinforced the relevance. The new organisation can be named "Central Indian Ocean Information Fusion Center" (CIOIFC) as the hub for information and intelligence sharing centre.

There would definitely be challenges in establishing an IFC in Sri Lanka and will take time too. The RMIFC - Madagascar took several years to prove it as an established institution. However, it is a necessity without a doubt to have another and will be even more essential necessity, in time to come. Hence with the blessings and support of partner nations it would be an achievable goal, particularly considering the need.

This endeavour, can be hosted by the Sri Lanka Navy (SLN) as done by the Republic of Singapore Navy, along with the Sri Lanka Coast Guard (SLCG) and would be boosted by the SLN experience on asymmetric warfare and small boat operations.

Conclusion

In conclusion, IOR will continue to have many traditional and non-traditional threats in the 21ˢᵗ century. The Indian Ocean region is vast and maritime security coupled with environmental issues will remain as enormous concerns. Adequate visibility of the region with the available mechanism is uncertain. In order for law enforcement agencies to respond to a security or safety issue in the region it is essential to have awareness of activities there in. Therefore, it is high time to initiate a new"Central Indian Ocean Information Fusion Centre"(CIOIFC) to close the gap.

A cooperative mechanism with regional and extra regional states are a timely necessity. And Sri Lanka would be the ideal location to fill the vacuum in enormous ocean Space of Indian Ocean by providing its strategic location for maritime safety and security of the region.

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SRI LANKA'S CIVIL WAR: HOW TO DEFEAT AN INSURGENCY

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"Sri Lankan Civil War is a unique case and the lessons that can be drawn from it has relatively narrow applicability to the study insurgency and counterinsurgency operations. The military strategists should take notice of the importance of adaptability on isolation in counterinsurgency operations, identify the root cause of the problem and show the capability to gain popular support. However, SLG demonstrated that not only a guerrilla force can be destroyed, but it could also be completely eliminated, not leaving remnants to fight another day".

Introduction

There were four political, economic and administrative reasons which could be cited as the main causes for the outbreak of ethnic conflict in Sri Lanka. They are the promulgation of 1956 Sinhala-Only Act, the Republican Constitution of 1972, the Parliamentary elections of 1977 and the 1983 "Black July" ethnic riots. However, the killing of 13 Sri Lankan Army (SLA) soldiers by the Liberation Tigers of Tamil Eelam (LTTE) on 23rd July 1983 marked the initiation of armed hostilities by the insurgents and the beginning of Eelam War I, which ended in 1987.

Thereafter, the Indian intervention with the Indian Peacekeeping Forces (IPKF) from October 1987 to March 1990 ended unsuccessfully. Eelam War II began in July 1990 and ended in a ceasefire in January 1995. The next episode of fighting (Eelam War III) commenced in April 1995, and culminated in the February 2002 ceasefire, the longest in the conflict. It was officially abolished by the Sri Lankan Government (SLG) particularly in January 2008, but due to the unsteady ceasefire hostilities resumed from 2006-2008.

Later, the flat out Eelam War IV commenced in July 2006 and developed up into full scale offensive. The security forces accomplished a significant victory on 18th May 2009, when the Tamil Tigers were encircled near their stronghold of Mullaithivu. However, the main attempt of previous government strategies was to bring the rebels to the negotiating table. Ceasefires were accompanied by five direct and two back-channel negotiations with the insurgents. The first of five attempts was the failed Indo-Sri Lanka Accord, which was followed by efforts towards power-sharing, made by two presidents, one Prime Minister and finally, President Mahinda Rajapaksa. The insurgents were offered the best chances for devolution by PM Wickeremesinghe, when both sides agreed to explore a federal solution in December 2002, but the Tigers reneged on this proposal. Rajapaksa expected peace from two rounds of talks at Geneva and Oslo in 2005-06 but finally became convinced that the insurgents, under its leader Velupillai Prabhakaran, would never agree to a negotiated settlement; as he believed in achieving a separate state through only military means.

The paper analyzes the importance of the civil war in Sri Lanka giving reasons for the success and mistakes of the opposing group and highlights the importance of defeating

maritime capability. In the final analysis, it concludes that the Clausewitz Trinity has some relevance and the lessons learned could be applied elsewhere in the world with caution.

Why the Sri Lankan Conflict is Important

In the months of May 2009, the Sri Lankan government forces completely destroyed the Tamil Tigers, who had fought an insurgency for thirty years. The decisive military victory brought lasting peace to the island. According to British writer Professor Paul Moorcraft, who has researched extensively on Sri Lanka's conflict, it was the first time since the end of the Second World War that a large-scale indigenous insurgency had been defeated by military force. In other situations usually, both government forces and insurgents have negotiated for a settlement other than war[1].

Sri Lankan Insurgency and Irish Republican Army

As an example, Professor Paul Moorcraft in his groundbreaking book "Total Destruction of Tamil Tigers" draws a parallel between Sri Lanka and Ireland as a reference to understand the uniqueness of the victory in an academic sense, despite the different context. Sri Lanka and Ireland both are islands of roughly the same size. The Sri Lankan government's victory was as if the British Army had killed thousands of Irish Republican Army members in a mere few months to end completely the conflict in Northern Ireland. Instead, years of complex negotiations, aided (or impeded) by international diplomacy from the Republic of Ireland and the US, and a willingness by the Provisional IRA to negotiate a settlement created an eventual political deal. The Northern Ireland conflict was modern Europe's longest insurgency and its plotters on, even though just a few dozen active hardliners still see violence as an option.

In contrast, the Sri Lanka insurgents wanted to create 'Tamil Eelam', an independent state on the island. Since their final defeat, Sri Lanka has not had to suffer any significant post-conflict insurgent violence (or 'terrorism') – no bombings to disrupt civilian life at all; zero incident so far. This is remarkable but unusual. If the peace is truly permanent, the conflict may well teach other nations how to end wars, give the war a chance, and bring peace[2].

Sri Lankan Insurgency and Boko Haram

Moreover, historians might argue that Sri Lanka's military victory is not so unique. In Nigeria, the government forces have fought counter-insurgency (COIN) against Boko Haram. Boko Haram's initial rebellion failed. However, after years of fighting, the insurgents became increasingly aggressive and started to control large areas in northeastern Nigeria just like what has happened in Sri Lanka during Elam war 1-3. The violence intensified dramatically in 2014, with 10,849 deaths, while Boko Haram intensely expanded its borders. Later, the insurgents were driven back during the West African Offensive a Nigeria-led coalition of African and Western states[3].

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1   PAUL MOORCRAFT, TOTAL DESTRUCTION OF TAMIL TIGERS; RARE VICTORY of Sri Lanka's Long War, Pen and Sword Military Publications, Great Britain, 2012.p.14.

2   Ibid.

3   War against terrorism; Nigerian diplomatic dimension against Boko Haram insurgency, Available at ttps://www.projecttopics.org/war-terrorism-nigerian-diplomatic-dimension-boko-haram-insurgency.html

Despite setbacks, the government launched new offensives in 2018 and 2019 against Boko Haram and (Islamic State's West Africa Province) ISWAP. However, unlike Sri Lanka's total absence of violence for one decade, it is reported the insurgents are known to have grown in strength.

Sri Lankan Insurgency and Huk Insurgency in Philippine

Similarly, historians could also point to the Huk insurgency in Philippine and Magsaysay and his American adviser had stopped the Communist insurgency in its tracks, within 18 months after taking office. The Huk insurgency in the Philippines was a perfect popular uprising that had begun during the war to disturb the Japanese occupation. Magsaysay and his U.S. consultant eliminated the insurgency by applying even more popular measures; blend with police-style battle tactics. The eventual defeat of the Huk insurrection in 1953 was largely the work of one of the greatest political-military combinations in modern history[4]. There may be vanquished insurgencies in the world, but there is no equivalent in the modern world, for more complete and comprehensive defeat of large-scale insurgency, often in semi-conventional warfare, which had lasted for decades.

Reasons for the Success

Lack of Popular Support

Since the end of the civil war, a number of military and academic researchers have argued about what made the SLG so successful in defeating the insurgents. In 2010, Stephen Battle, who was a US Army major in US Naval Post Graduate school assessed that the SLG defeated the insurgency because the insurgency lost legitimacy with the local Tamil population. In other words, the insurgents lost popular support. Battle suggested that the insurgents focus on foreign support, especially from western countries which largely depend on to fund the insurgent group evaporated after 9/11, created a substantial loss in financial and manpower support for operations is a valid point. Battle reinforces his argument by citing the high level of forced conscription of the Tamil population into the insurgent's ranks during the last phase of the war[5].

Resisting Western Intervention

Very often conventional wisdom recommends that in insurgency situations, usually militaries in the world opt to create conditions suitable for the application of a political solution. During the cease-fire of 1995, then present Prime Minister envisioned military solution being neither achievable nor worth the enormous collateral costs. However, the recent success of the SLG has demonstrated that given the right conditions, a decisive battlefield victory is a possibility. In another article, Ashok Metha an Indian academic believe the former President or his advisors must have studied "Give War a Chance", a 1996 *Foreign Affairs* article, in which Edward Luttwak's theory of allowing war to run to its logical conclusion rather than interrupted by foreign intervention, he resists Western intervention and UN attempts to force a ceasefire. Sinhalese nationalists called it "Defiance" and "Showing

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4   Tierney Jr, John J., Can a Popular Insurgency Be Defeated? Military History Magazine, March 2007.

5   Jonathan E Ford, Strategic Success of Sir Lankan Government: Research Report Submitted, Air War College, Air University, Maxwell AFB, AL, 13th Feb 2016, p.3.

the West its place"[6].

Outstanding Civil-Military Cooperation

Furthermore, the skillful diplomacy of the SLG ensured that the LTTE was banned in 32 countries, seriously undermining its funding and arms resupply networks. But first, a favourable environment had to be created for the military offensive. The military campaign was executed with unprecedented military resolve: a clear aim, unrestricted resources and outstanding leadership, which was given a free hand with no political interference when making a military decision and the Civil-Military relations were at its best. The 'Fight to Finish' strategy evolved over time was motivated by rapid gains on the ground. Air supremacy, Naval blockade, Precision-guided attacks taking out top insurgent leaders and confronting SLG Army on dfferent fronts, created an acute shortage of manpower reduced the fighting capability of insurgents.

Training, Intelligence and NSC

In addition, another major factor in the SLG success was the remarkable increase in the size and training of the SLG military forces which absorbed enough reserve force which was not available before. In addition, this improvement in military posture was supplemented by a wider application of national power, which included an improvement in intelligence apparatus and highly focused National Security Council (NSC) chaired by the President and Defense secretary, renewed political will, and improved collaboration or support from the international community. The SLG's continuous use of small infantry manoeuvres, as well as the expanded use of civil defense forces, and the protection of the non-combatant population along the border villages and the main cities by the police department also changed the tide of the conflict.

Control of the Media

Besides, the soldiers were recognized as national heroes by the local TV channels and the country's outlook on defense and freedom of the motherland from terrorism changed the perception of the conflict dramatically. The military was guarded against media criticism by weaning away the propaganda initiative from the insurgents. The insurgent's media campaign was very successful at the earlier stages of the conflict. A virtual media gag was imposed in the combat zone and the foreign media was kept out. The Media Centre for National Security (MCNS) was a single window concept designed for countering insurgent propaganda. A strengthened Defence Ministry media initiative ensured that the insurgents lost the media war which they had always won in the past. The domination of information space ensured operations were conducted in a blanket of secrecy, except for government handouts. All international Non-Governmental Organizations (NGOs) except the International Committee of the Red Cross (ICRC) – which was also asked to leave before the last battle – were expelled from the North[7].

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6 Asoka Metha, *Sri Lanka's Ethnic Conflict:* Manekshaw Paper, Centre for Land Warfare Studies, KW Publishers, New Delhi, No.22, 2010.

7 Ibid.

Defeating Maritime Capability of the Insurgency

Exlusive and Innovative Enemy at Sea

Typically, the main focus of the counter insurgency case studies in the world is land oriented because the target population lives on land due to obvious reasons. Also, we agree the small to insignificant insurgent maritime forces like The Filipino Islamist Abu Sayyaf Group and the Jemaah Islamiyah has a correspondingly marginal effect on the final outcome of their struggle. Generally, the counterinsurgent side's naval forces tend to be very strong, because naval force structures are not generally geared to fight against small boats. Hence, the navies usually overmatch the insurgent's maritime capability and therefore key elements of the maritime aspects of counter insurgencies become neglected as minor issues of the relevant analysis. But, the Sri Lankan Civil War (1983-2009) is somewhat of an exception of that trend. Both the Sri Lankan government and the insurgents fielded capable naval forces that directly affected the flow of operational outcome during the war[8].

Floating Warehouses

Hence, if there was one single military achievement that tilted the balance in favour of government forces, it would identify and destroy the insurgent's supply chain together with its floating warehouses at a distance of 2000 Nautical Miles away from Sri Lanka by the naval forces. Because sustainability of the insurgents totally depend on the military hardware received from the sea. Over the years the rebels became very advanced in the small boat warfare and used suicide boats as their main weapon of choice to replicate a missile.

In particular, an elaborate undercover operation with meticulous planning was launched for the purpose of locating insurgent's gunrunners on the high seas. Painstaking intelligence analysis, picture building through captured/destroyed documents from gunrunning fishing trawlers, maritime reconnaissance and the capture of a rebel boat by Maldivian Coast Guards in May 2007 helped in targeting the rebel supply network. Between 2006 and 2008, 32 encounters took place at sea, in which 11 insurgent warehouse ships containing over 10,000 tonnes of war-related material, 80,000 artillery rounds, 100,000 mortar shells, several bulletproof jeeps, three dismantled aircraft, torpedoes, SAMs, radar, high-power outboard motors (OBMs) were captured/destroyed[9].

Insurgent's Strategic Miscalculations

The Assassination of Indian Prime Minister

Accordingly, from late 2012 until late 2013 three researchers published books regarding the victory of the SLG forces against rebels, and their understanding was that there was not one single reason for the success, but many. Paul Moorcraft discussed both on what the SLG did correctly and the mistakes of the insurgents. In his view, the critical blunder of the insurgent's was political mistakes which included encouraging the Tamil population to avoid voting in Sri Lanka's political process and the assassination of the former Indian prime minister. Moorcraft viewed these efforts as eroding support and representation for

8   Paul A Povlock, *A Guerilla War at Sea: The Sri Lankan Civil War*, Small War Journal, Small Wars Foundations, Naval War College, Newport RI, Sept 9, 2011.p.1.

9   Asoka Metha, *Sri Lanka's Ethnic Conflict:* Manekshaw Paper, Centre for Land Warfare Studies, KW Publishers, New Delhi, No.22, 2010.

the insurgent's cause and the Tamil people. Moorcraft viewed the SLG used an adaptive form of the Maoist insurgent strategy against the insurgents, in essence beating the rebels at its own game, by displaying political will supported by the population and by trading space for time which led to a war of attrition[10].

The Defection of Renegade Leader

Especially, the supreme leader of the rebels regularly murders own opponent. During the course of the war, he has killed more of his own opponents than his enemy. In March 2004 the second in command of the rebel organization defected to the government forces. Colonel Karuna, the nom de guerre of Vinayagamoorthy Muralitharan, led around 5,000 to 6,000 cadres in the east. A senior commander since 1987, he had been a combat veteran and seen how the leadership behaves in different situations. Disputes about strategy, weapons allocations and, finally, money led to the summoning Karuna to his command bunker in the north. Karuna suspected that it would be a one-way journey. Karuna summarized his feelings at the time:

> *"My problem with Prabhakaran was mainly because of his rigid attitude He wanted Eelam or nothing. Then there was another problem within the LTTE. Since Prabhakaran came from Jaffna, the leadership and all important posts within the organization were always given to the Northern Tamils. Although most of the fighters came from the East, we never got our due . When I raised these issues , I realized they would like to get rid of me. But I read the signs early and decided to break away[11]."*

His defection did not add much to the army's strength, though the two main insurgent factions did clash intermittently in the early stages of the split. What the fissure did achieve, however, was to hand over a wealth of intelligence on Tiger operations both at home and abroad. It was "Pure Gold" according to the chief of National Intelligence.

Conventional Way of Thinking

Notably, despite significant conventional military pressure being applied by the SLG, the group was able to persevere for nearly thirty years without suffering any crippling blows to its leadership or infrastructure. The rebels displayed a formidable capacity to undertake limited conventional military operations against the SLA/SLN and were only completely defeated militarily when confronted with a multi-front offensive during the fourth Eelam War. Militarily, however, the group's organizational capacity was not sufficient to successfully implement conventional operations on the large-scale necessary to overcome the final SLG onslaught. In spite of a few gains, the groups continued the pursuit of conventional land, air, and sea force structures failed to achieve strategic success. Despite creating a substantial conventional military organization on paper responsible for numerous tactical successes however the insurgent's conventional forces were simply undermanned and poorly equipped. It was their inability to properly equip and train its numerous conventional units that led to their defeat under overwhelming, comprehensive SLG military pressure at the end of Elam War IV.

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10 Paul Moorcraft, *Total Destruction of Tamil Tigers; Rare Victory of Sri Lanka's Long War,* Pen and Sword Military Publications, Great Britain, 2012.p.4.

11   Ibid.

Can the Lessons be Applied Elsewhere?

Lessons for the Insurgents

Mainly, the Sri Lankan counter insurgency operation is a unique case and the lessons that can be drawn from it have relatively narrow applicability to the study insurgency and counterinsurgency operations. The use of brute force in the SLG counter insurgency campaign would be unacceptable in most situations and their approach is unlikely to be replicated by liberal-democratic governments. Similarly, insurgent networks looking to learn from the insurgents are more likely to replicate their terrorism and political violence operations rather than their adherence to conventional military operations. The most salient lessons to be learned are the importance of adaptability and organizational learning for the counter insurgents, and the ability of outside support to prolong an insurgency despite overwhelming counterinsurgent superiority. Additionally, terrorist organizations have also mimicked the LTTE exceptional strategies in the political arena, setting up parallel hierarchies and shadow governments to provide structures to replace the state. However, what continues to distinguish the LTTE from other terrorist organizations is their military. A military force is an indicator of a wider support network (e.g., India to the LTTE), and that the organization has enough strategic capacity to field and employ one.

Most importantly, the insurgents had already pioneered suicide tactics copied elsere, especially their development of explosive vests. For instance, the Tigers' innovations, like the belt or vest, have been duplicated by al-Qaeda, Hezbollah, Hamas, and the al-Aqsa. Martyrs Brigades. Al-Qaeda's fascination with airline bombings pre-dated the Tigers 'deployment of their small air wing in kamikaze strikes. The Tigers' sea tactics were certainly innovative, however, and may inspire future examples of a small-boat threat to the major naval powers. Iran is an obvious example. Possible copycat developments of the combatants' Modus Operandi could fill an entire volume[12].

Lessons for the Governments

In particular, government officials and military strategists should take notice of the importance of adaptability and isolation in counter-insurgency operations. If a force is able to learn from experience, and the organization is open to subsequent adaptation, valuable-lessons can be gained. A counter insurgent force that is rigid and unable to adapt will more likely than not find itself in a strategic quagmire of its own creation. An organizational capacity to adapt, in conjunction with a commitment to insurgent isolation and degradation, are vital preconditions to victory in any insurgency. Despite the SLG abandoning civil and political counter insurgency initiatives, their willingness to adapt in the latter stages of the civil war proved successful. A counter-insurgent force that couples these lessons with the application of political and civil initiatives is very likely to succeed[13].

However, as far as the political lessons concerned, at the very beginning of any insurgency, the opposing government should identify the root cause of the problem. If the government or opposing force cannot stop the organization at the root of the cause, nor conform to the demand or appeals of the people, they must convince the population that what they are doing is justified. The next thing is that the government should show the

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12   Paul Moorcraft, Total Destruction of Tamil Tigers. chapter 16.

capability to gain popular support. If the insurgents use terrorism to provocative tactics the government should avoid responding to attacks in an action-reaction spiral theory.

Relevance of Clausewitz Theory "Remarkable Trinity"

After all, the close interplay between politics and military affairs suggests a second conclusion reached by Clausewitz, namely that war is waged by a "Remarkable Trinity" of the government, armed services, and people. "A theory that ignores any one of them or seeks to fix an arbitrary relationship between them would conflict with reality to such an extent that for this reason alone it would be totally useless." The government established the political purpose; the military provides the means for achieving the political end; and the people provide the will, the "Engines of War." All three are indispensable legs of Clausewitz' strategic triad in order to achieve victory in war[14].

However, in Sri Lanka's long conflict, the "Trinity" was ignored until the end of Elam War III. But, unlike the previous occasions, at the beginning of decisive Eelam War IV on July 2006 the people, military and the government were on one side and determined to wage a full-scale offensive. Hence, despite the criticism of age-old theory by some scholars, the modern interpretation of "Trinity" has some correlation to the events that took place in Sri Lanka's civil war.

Conclusion

In conclusion, the final phase of counter-insurgency campaign which lasted 33 months rendered the most dramatic results and ended before the scheduled time. Contrary to the text book views of counter insurgency warfare, the SLG demonstrated that not only could a guerilla force can be destroyed, but it could also be completely eliminated, not leaving remnants to fight another day. The overall assessment of Sri Lankan war experience has relevance for other current and future conflicts and also has relevance to Clausewitz "Remarkable Trinity". However, the above analysis is not intended to be dogmatic. Rather, it is intended to be an objective military assessment of what works in war and peace.

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14   Christopher Bassford and Edward J. Villacres, Reclaiming the Clausewitzian Trinity, Clausewitz.com available online.

HAZARDS OF WELDING ON SEMEN PARAMETERS OF SAILORS IN SRI LANKA NAVY

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"Welding emissions are known to cause adverse effects on male reproductive system. Although Sri Lanka Navy has more than 300 welders their fertility status has not been assessed. Long term exposure to welding emission had a significant effect on sperm concentration but there were no effects with short duration of exposure. Welding in squatting position and wearing dark coloured synthetic underpants had been affected to the lower sperm concentration in welders"

Introduction

Welding is a technology indispensable with modern industries carried out worldwide. Welders comprise a major occupational group exposed to intense heat, fumes & gas, toxic metals and their oxides during the process of welding. Reported that effects on semen quality may be due to exposure to one or combinations of them, but the exact mechanisms are not clear [1]. When manually performed, the welders get directly exposed to elevated temperatures, fumes and other emissions irrespective of the welding process. The level of emissions in welding process depends on a number of different factors such as; process of welding used, welding parameters, filler metal and surface coatings or contaminants on the base metal surface [2]. The reported results on the effects of welding and semen parameters vary. Adverse effects on sperm motility and morphology were found among welders exposed to welding emissions [1]. Though, long term moderate exposure to radiant heat of welding is associated with reversible decrease of semen quality [3] effect is non-reversible within a short non-exposure period [4]. However, Welding of mild steel is related to a substantial decrease in sperm count per ejaculate, proportion of normal sperm forms, motility, and linear penetration rate, [5]. Chromium and nickel are primarily associated with stainless steel. Stainless steel welders had significantly decreased semen volume, total sperm count, proportion of motile sperm, motility, and concentration of testosterone in serum [5][12]. Low-level exposure to hexavalent chromium does not emerge a major hazard for human spermatogenesis [11].

A rise in male infertility has been reported in Sri Lanka aswell. In a sub-fertile population attending urology and andrology clinics at Teaching Hospital Peradeniya over a 6years period has been studied. In this it is reported that the highest percentage of men were from armed forces (16.7%) followed by skilled agricultural, forestry and fishery workers (15%) and craft and related trade workers (15%). Technicians and associate professionals were

5.8% [13]. Further, the identified reasons of primary sub-fertility among men in this study were sperm quality problems, post testicular causes such as sexual dysfunction and testicular causes such as varicocele [14]. In addition, health related factors such as reproductive system related problems, usage of long term drugs, high body mass index, genetic factors and mental illnesses have affected fertility. Furthermore, socio economic factors such as education, occupation, daily working hours, and location of work place, income and expenditure status are shown as significant determinants of subfertility in Sri Lanka [15]. In Sri Lanka, it was found that the total fertility rate decreased from 5.32 children per woman in 1953 to 1.96 between 1995-2000 periods. Proportion married, contraception, postpartum infecundability, and induced abortions are the main four factors identified as important determinants in falling fertility rate [16]. There are only a few epidemiological studies evaluating the male infertility and occupations in Sri Lanka [13]. They too have not categorically identified occupational factors on male infertility. Therefore, the status of male infertility in Sri Lankan is still mostly unknown.

Currently, SLN is strengthening her ship repair team with more than 300 numbers of welders at the key establishments (Colombo, Trincomalee, Galle and Kankasanthurai). According to unpublished data approximately 5% of the sailors are reported to be infertile. However, this needs to be explored in order to propose interventions for mitigation. Effects of welding emission on semen quality of welders have not been studied in Sri Lanka. Hence, this study was aimed to describe the sperm parameters of the welders and non-welders and to identify associations between the socio demographic, life style and occupational factors and the sperm parameters of welders and non-welders of Sri Lanka Navy sailors based in Colombo.

Methodology

A cross sectional descriptive study was conducted among sailors of Sri Lanka Navy based in Colombo to study the socio demographic, life style and occupational factors affecting semen parameters in 2017. The study group comprised of 44 welders and 44 non-welders in reproductive age. The welders included men regularly exposed to welding for more than one year in Sri Lanka Navy workshops & ship yard, and non-welders were those who do a desk job at the same base.

Fresh semen samples were obtained from participants at the Naval General Hospital – Colombo, and were analysed according to the WHO laboratory manual for the examination and processing of human semen (2010). At the enrolment, a pre tested interviewer administered questionnaire to obtain data on socio-demographic occupational and lifestyle factors of the participants.

Statistical Analysis

The data obtained from welders and non-welders in this study regarding associated factors (socio demographic, life style factors and occupational) and the sperm parameters were analyzed statistically by statistical package for the social sciences (Version 16, SPSS). Mean values and standard deviation of semen parameters were computed and differences between welders and the reference group were tested with independent sample t-test. P value ≤ 0.05 was considered statistically significant. Correlation between each sperm parameter with age, BMI, dose exposure (duration of exposure per day) and total duration of

exposure (experience), type of underwear were tested and coefficient of correlation (r) and p value was computed using statistical package for the social sciences SPSS (version 16, SPSS) and package Minitab14.

Ethical Considerations

The ethical approval was obtained from the Ethical review committee of Kothalawala Defense University. Approval from the Commander of the Navy was obtained to recruit the participants from Sri Lanka Navy and also to utilize the laboratory facilities at the Navy General Hospital – Colombo.

Results

Socio-demographic characteristics of active welders (44) and non-welders (44) were compared and results have been given in Tables 1. Lifestyle factors of both welders and non-welders are very similar.

Table 1: Demographic Characteristic of Welders and Non-welders

Characteristics	Welders	Non-welders
Mean age (years)	31.0	27.0
Mean BMI(Kg/m^2)	22.5	22.2
Mean Duration of service(years)	9.5	5.0
Mean Duration of marriage(years)	7.0	1.0
Mean time taken to first child (months)	18.5	11.0

Source: (Survey Data)

Sperm Parameters of the Welders and Non-Welders

Sperm parameters of welders were analysed and were compared with non-welders (control group) in Table 2. It was noted that there were no significant difference in sperm parameters between welders and non-welders.

Table 2: Sperm Parameters of Welders and Non-welders

Sperm Parameters	Welders (n=44)		Non-welders (n=44)		t-Test P value
	Mean	SD	Mean	SD	
Volume (ml)	2.3	1.1	2.8	1.1	0.6
Concentration (millions/ml)	41.9	27.4	40.9	25.1	0.6
Progressive motility (%)	64.0	22.3	70.9	13.9	0.8
Total motility (%)	79.0	19.3	85.4	9.4	0.1

Source: (Survey Data)

The proportions of normal semen parameters and the different sperm abnormalities

of welders and non-welders have been given in Figure 1. It was abnormal (oligozoospermia) in 16% of welders and 7% of non-welders with a mean sperm count of 9.2 million/ml and 11.3 million/ml respectively. Sperm motility was abnormal (asthenozoospermia) in 11% of welders and the mean progressive motility was 15.4%. Asthenozoospermia was not found among the non-welders in this study. It was further found that 7% of welders were oligoasthenozoospermic with both count and motility being below the normal.
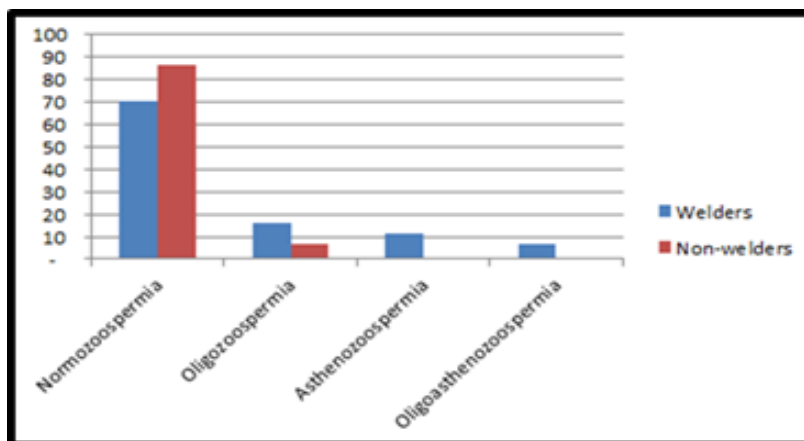
Figure 1: Proportion of Sperm Abnormalities of Welders and Non-Welders Sperm Count
Source: (Survey Data)

Association of Socio-Demographic Factors and Sperm Parameters

When evaluating the association between, socio-demographic factors of welders and sperm parameters, it was found that there was no significant correlation between age and sperm parameters. A correlation between age of welders and volume (ml) of semen per ejaculation was not found at all. A decreasing trend of sperm concentration with age of welders ($r = -0.230$, $p = 0.067$), was found. A week positive correlation between age of welders and total motility ($r = 0.072$, $p = 0.320$) and progressive motility ($r = 0.126$, $p = 0.207$) were observed. When analyzing the relationship between BMI and sperm parameters of welders, it was found that there was a week negative correlation between BMI and semen volume (ml) per ejaculation ($r = -0.030$, $p = 0.424$), sperm concentration ($r = -0.018$, $p = 0.453$) and progressive motility ($r = -0.055$ & $p = 0.36$), However, there was an increasing trend of percentage of total motility with BMI of welders, but no evidence of linear regression or significant correlation between BMI of welders and sperm parameters.

Association of Lifestyle Factors and Sperm Parameters

The life style factors considered in this study of both welders and non-welders were very similar. However, the type of underpants was the only observed variable that had a different effect on sperm parameters. When analyzing the effects of underpants on sperm parameters, it was found that there was no significant correlation with colour of underpants or material of underpants. However it was observed that there was a deteriorating tendency of sperm parameters of welders, who regularly wore dark coloured, synthetic underpants, even though it was not very significant. In contrast a decline in semen volume ($r = -0.07$, $p = 0.33$) was seen among the welders who wore light coloured underpants. However, an

increasing trend of sperm concentration (r = 0.19, p = 0.11) progressive motility (r = 0.21, p = 0.09) and total motility (r = 0.23, p = 0.07) of welders who wear light coloured underpants were observed.

The material of underpants did not have a significant effect on sperm parameters of welders, but the sperm parameters (volume per ejaculate, count, progressive motility and total motility) of welders who regularly wore cotton underpants seem to be better than those who wore synthetic underpants. The tightness of the underpants and the effect on sperm parameters could not be assessed as only four welders reported that they wear tight underpants.

Association of Occupational Factors and Sperm Parameters

Dose Exposure to Welding and Sperm Parameters

When analyzing the relationship between dose exposure of welders with sperm parameters in Table 3, it was found that the volume of semen per ejaculation tend to decrease with increased dose of exposure (r = -0.115, p = 0.459). There was no significant linear relation between dose of exposure and sperm parameters. However a slight positive correlation between dose of exposure with sperm concentration / ml (r = 0.084, p = 0.59), progressive motility (r = 0.091, p = 0.56), and total motility (r = 0.102, p = 0.51) were observed.

Table 3: Summary of Correlation between Dose of Exposure and Sperm Parameters

Semen Parameters	Coefficient of Correlation (r)	P - value
Volume	-0.12	0.46
Concentration	0.08	0.57
Total motility	0.1	0.51
Progressive motility	0.09	0.57

Source: (Survey Data)

Total Exposure to Welding and Sperm Parameters

When evaluating the association between total exposures to welding emission with sperm parameters in Table 4, it was observed that there was negative correlation with volume per ejaculation (r = -0.063, p = 0.683) Figure 2, Sperm concentration (r = -0.401, p = 0.007<0.01) Figure 3 and sperm total motility (r = -0.059, p = 0.7) Figure 5. Although unexpectedly, there was a weak positive correlation with percentage of progressive motility with a correlation coefficient of 0.061, Figure 4.

Table 4: Summary of Correlation between Total Exposure and Sperm Parameters

Semen Parameters	Coefficient of Correlation (r)	P - value
Volume	-0.06	0.68
Concentration	-0.4	0.007
Total motility	-0.06	0.7
Progressive motility	0.06	0.69

Source: (Survey Data)
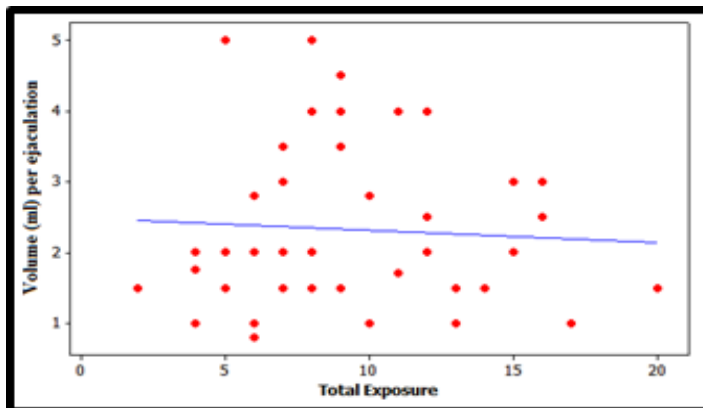
**Figure2: Correlation between Total Duration Exposed to Welding Emission &
Volume (Ml) per Ejaculation
Source: (Survey Data)**
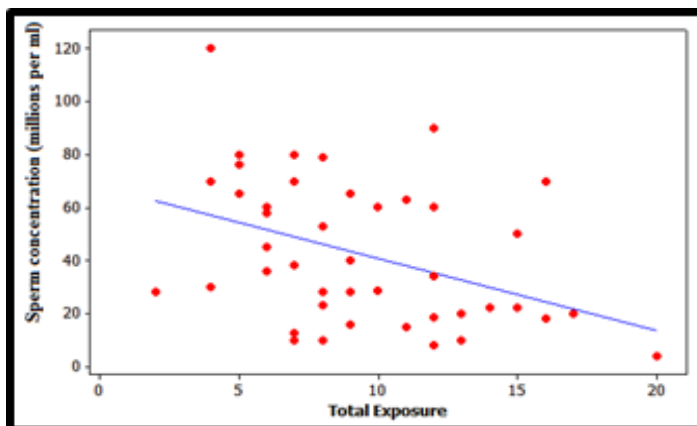
**Figure 3: Correlation between Total Duration Exposed to Welding Emission &
Sperm Concentration (millions per ml)
Source: (Survey Data)**
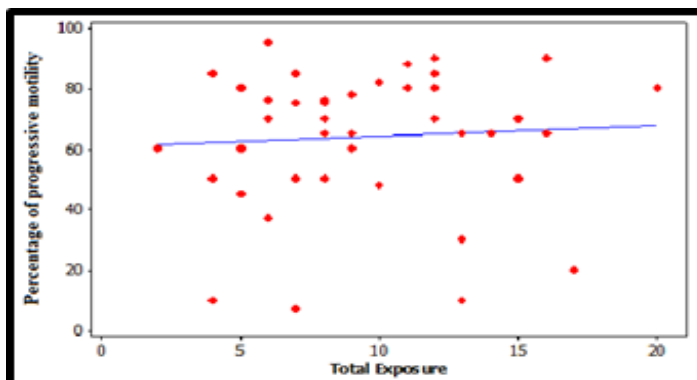
**Figure 4: Correlation between Total Duration Exposed to Welding Emission &
Percentage of Progressive Motility
Source: (Survey Data)**
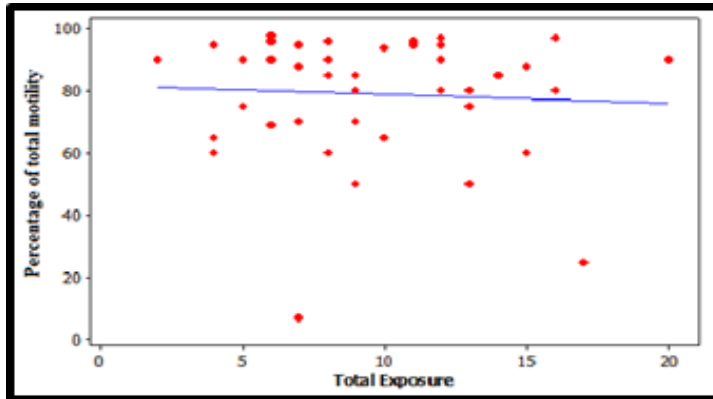
**Figure 5: Correlation between Total Duration Exposed to Welding Emission &
Percentage of Total Motility
Source: (Survey Data)**

Welding Position and Sperm Parameters

When assessing the correlation between the posture of welders and sperm parameters, it was observed that posture of welders did not have a significant effect on sperm parameters. However a decreasing trend of volume per ejaculation, sperm concentration and total motility, of welders who used to weld in squatting posture was observed.

Out of 44 welders, 19 had the total duration of exposure more than the mean (9.5 years). Among them, average daily exposure was 5.5 hours and the mean total duration of exposure was 13.4 years. Out of them 26% had abnormal sperm parameters and these sperm abnormalities have been illustrated in Figure 6. Out of the 44 welders, 25 welders had total duration of exposure less than mean (9.5 years). Among them average daily exposure was 4.5 hours and total duration of exposure was 6.6 years. Among them 12% had abnormal sperm parameters and these sperm abnormalities have been shown in Figure 7.
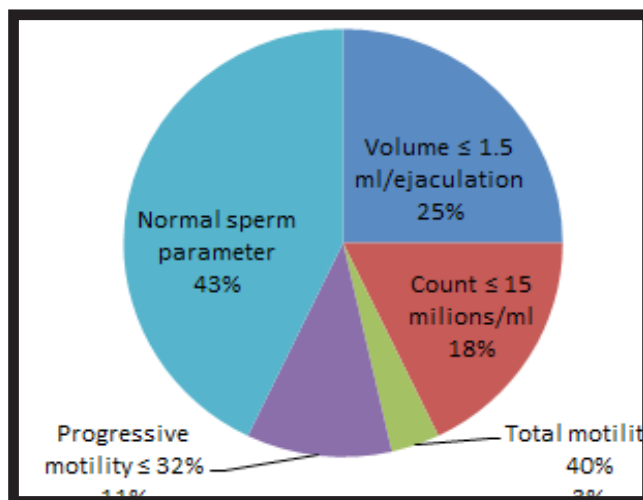
**Figure 6: Graphical Presentation of Sperm Abnormalities of Welders (N=19)
with a Total Exposure is more than Mean Total Exposure (=9.5 Years)
Source: (Survey Data)**
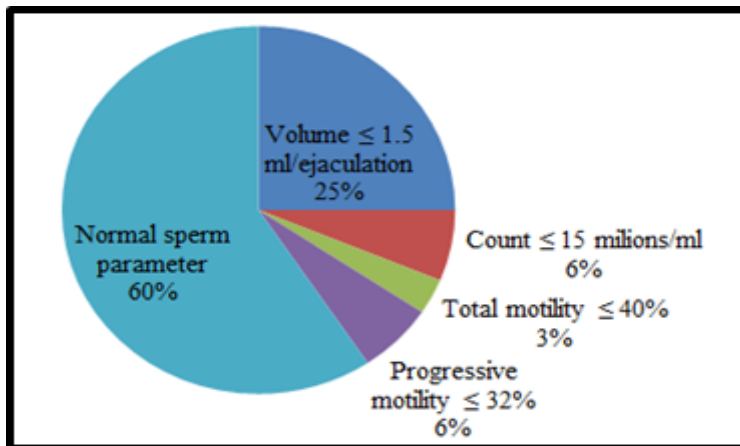
Figure 7: Graphical Presentation of Sperm Abnormalities of Welders (N=25) with a Total Exposure is Less Than Mean Total Exposure (=9.5)
Source: (Survey Data)

Discussion

This study was the first research carried out on the sailors of the Sri Lanka Navy engaged in welding. For the purpose of this study two groups of sailors were selected from the Sri Lanka Navy based in Colombo, namely those engaged in welding and those doing desk jobs. The socio-demographical and lifestyle factors among naval sailors involved in welding and those who engaged in desk jobs seem similar in the current study. Both welders and non-welders have been abstaining from life style factors which are known to adversely influence fertility such as addiction to alcoholic drinks, smoking, illicit drugs and caffeine containing drinks. Further in the Sri Lanka Navy, it is compulsory to attend regular morning physical exercises on weekdays. A nutritionally recommended diet is also provided to all the sailors. These factors may be the contributory factors for not observing significant associations between life style factors of welders and non-welders in the current study.

All the 44 welders except 08 (18.2%) had a sperm concentration above 15 million/ml, which is the cut off value for sperm count (WHO, 2010). In this study the percentage of welders with normal sperm parameters was less than that of the non-welders. Further the welders had a higher proportion of sperm concentration and motility abnormalities than the non-welders even though there was no statistically significant difference of sperm parameters of welders and non-welders. Thus the abnormalities of semen parameters among welders cannot be ignored. This may be a warning to take additional precautionary measures to protect welders from the effects of welding and time to re-think ways to mitigate welding emissions.

In this, there was no significant change in sperm parameters of welders with age because the selected group of welders was in reproductive age and the age range of 11 years, may not be enough to see significant changes in sperm parameters. BMI is reported as an influential factor to reduce sperm quality [17], [18],[19]. However, this study did not demonstrate a significant effect because that the BMI of the selected group of welders is within the normal range and the range is not enough to see significant changes in semen parameters.

The life style factors of the welders and non-welders were similar in this study. The only factor that seemed to have an effect on sperm parameters was the colour and material of underpants. As shown in the current study the dark coloured synthetic underpants contributed to lower the sperm concentration of welders. This may be related to the poor transmission of heat by dark colors and the synthetic material. Considering this factor, it may be worthwhile to recommend to the welders to avoid dark colours and not to wear synthetic underpants.

Increasing the duration of welding hours per day does not seem to make a significant change in sperm parameters of welders as expected, so it may be argued that a low level of exposure may not contribute to significant changes in the sperm parameters. In contrast, the present study indicates that there was a significant reduction in sperm concentration of welders with increase in numbers of years of exposure to welding emissions, but motility of sperm was not affected. On analytical comparison of sperm parameters of welders who had total duration of exposure more than the mean total duration of exposure (9.5 years) as in Figure 6 and total duration of exposure is less than the mean total duration of exposure as in Figure 7, it is clear that, long term effects of welding exposure has deteriorated the quality of sperm of welders in Sri Lanka Navy. In addition to the working environment in ship repair areas the working position may have contributed to lower the sperm concentration of welders with increase in number of years served. The position adopted for welding in the ship was squatting position. Continuous welding in squatting position over a period of time may have affected the sperm parameters of welders due to the effects on the testicular heat exchange mechanism

Based on the findings of the current study, it can be inferred that extensive exposure to thermal radiation and fumes may have contributed to decrease sperm concentration and motility of SLN welders. However, the results of study showed that the effects have been shown with long term exposure, but not with short term exposure. Effects of thermal radiation on sperm quality have been reported by many, but effects of fumes generated by steel used in SLN have yet to be identified. Therefore, the research should further analyse fume samples to identify the available toxic substances and their effects on sperm quality to obtain comprehensive results. The facility to analyse fumes in Sri Lanka Navy was not available.

Although many investigators have reported an effect on sperm parameters on welders, the mechanism by which these changes occur is not clear. However, toxic metals present in the welding fumes or toxic gases emanated or intense heat produced during welding operation or a combination of these may be responsible for the deterioration of the semen quality among the welders.

Conclusion

The results of the current study conducted among sailors of SLN base in Colombo among welders and non-welders showed that long term exposure to welding emission had a significant effect on sperm concentration but there were no effects on sperm parameters with short duration of exposure. This effect on sperm concentration may be due to the exposure to radiant heat or fumes or combination of both. However, long term studies with larger samples are necessary to come to more definitive conclusions. To identify the effects categorically, analysis of emitted fumes for different toxicants is necessary.

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POWER TUSSLE IN THE INDIAN OCEAN AND ROLE OF SRI LANKA

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"The role of Sri Lanka in the South Indian Ocean is very crucial and critical in the point of view of world peace, regional stability and harmony. Sri Lanka's future and destiny also will remain on the ability and tactfulness to handle key parties without antagonizing any single party. Well-balanced foreign policy and diplomacy will be played a crucial role in this regard".

Introduction

The Indian Ocean is the world third largest ocean and provides connectivity from East to West vice versa through the huge water mass enriched with exploited and unexploited resources both in living and non-living. Unlike other oceans, it consists of very narrow but crucial and strategically significant waterways known as choke points to connect its water mass with surrounding oceans. Out of four of these crucial choke points such as Suez Canal, the Strait of Hormuz, Bab-el-Mandeb and the Strait of Malacca are considered as strategic choke points. With the rise of emerging economies in Asia, traffic through the choke points is dramatically increased and security of these choke points is essential in order to run global trade and vital flow of energy supply chains. Hence, the security of chokepoints and undisrupted flow of shipment through Sea Lines of Communication is considered as a common interest for all stakeholders whether regional or extra regional. Sri Lanka is located in the centre of sea routes and has an almost equal radius to strategic chokepoints in the Indian Ocean. In addition, Northern Indian Ocean SLOCs pass the close vicinity of Sri Lanka except who use the deep-sea lanes from and, to Cape of Good Hope from South Africa to East.

Since the ancient time seafarers have been concerned over the Island due to its location. At present, the world's super power and regional powers focus their careful attention towards the resplendent island of Sri Lanka at the Southern tip of India. Her strategic location in the Indian Ocean persuades the international community towards the small island in a large scale. Many world powers including the regional giants tussles to invest in strategically important fields such as harbours, airports, power plants, highways, subways, oil and sea bed explorations in order to secure their national interest. A few decades back Indian Ocean referred as "Neglected Ocean" even though following old statement of Admiral Alfred Mahan.

"Whoever controls the Indian Ocean, dominates Asia, This Ocean is the key to seven seas. In the 21st century, the destiny of the world will be decided on its waters"

However, Admiral Alfred Taylor Mahan has forgotten to mark the ideal and significant location to enforce hegemony in the Indian Ocean. Undoubtedly, Sri Lanka can be considered as the best command post to command the Indian Ocean due to her strategic location and the world's second deepest natural harbour. Hence, all the interesting parties keep their

eyes on the island nation's affairs in all sectors.

The United States and India are the key players among the international community who are vigilant about Sri Lanka's foreign policy, especially bilateral relation with China including both military and economic sectors. China's massive and higher volume investment in strategic infrastructure development in Sri Lanka, both US and Indian strategic thinkers recognized as a threat to both nation's national interest and regional power balance. Even though, Chinese leadership emphasized its ambition based on win-win situation and promote international peace with mutual understanding and cooperation. China's investment especially in the field of strategic infrastructure development along with the old Silk Route such as construction of Hambantota Harbour, Port City of Colombo, Gwadar Port in Pakistan in the vicinity of Persian Gulf, harbour facilities in Maldives and infrastructure developments in Bangladesh ,Myanmar, Thailand Kra Cannel etc. under the theme of " One Belt One Road Concept". However, the Indian and US scholars seem it as encircling the Indian territory known as "Ring of the Pearls". Other interesting parties about Sri Lanka and the region are the Russia, Australia and Japan. Their concern over the island nation is not much but not least, than the US and India.

The combination of above circumstances, the role of Sri Lanka in the South Indian Ocean is very crucial and critical in the point of view of world peace, regional stability and the harmony. Sri Lanka's future and destiny also will remain on the ability and tactfulness to handle key parties without antagonizing any single party. Well-balanced foreign policy and diplomacy will be played a crucial role in this regard.

However, with the end of the separatist war, Sri Lanka was seeking development opportunities through foreign investments. The US backed western communities without congratulating the Island nation for eradicating of terrorism from its soil, put pressure over the government of Sri Lanka under the theme of "War Crime and Human rights". Sri Lanka's historical and close ally, India too neglected aspirations of the island nation under the leadership of Dr. Manmohan Sing. The leading financial institutions including World Bank and IMF too were forwarded human rights issues, war crimes, and implementation of amendments to her constitution as loan granting conditions. In this context, Chinese president Xii jinping's declaration of new Maritime Silk Route concept has given an opportunity for SL government to seek Chinese assistance and financial support to feed its hunger on development. Large scale Chinese investments were taken place around the island including strategic infrastructures development projects such as construction of Hambantota Harbour, Colombo South Port, Colombo Port City and Mattala Airport in the vicinity of Maritime Silk Route. However, all those Chinese investments and financial assistance were received without any conditions that do not harm to the sovereignty of the country. Under these circumstances, Sri Lanka automatically tilts towards China neglecting India and the other interesting parties.

At the same time, the United States concerned over the Chinese development in both military and economic sectors on a great scale. Chinese claim over South China Sea, construction of artificial islands in South China Sea, major expansion of Chinese Navy, including the acquiring of new carriers, Naval deployment beyond the second chain of island to far West of Arabian Sea, in overall China's excessive defence budget have been led to unrest the US, its allies, among the China's neighbours and also among regional powers

including Japan.

In this context, the United States will use a defensive strategy in order to containment of China in all possible means. First, with the cold war experiences, already tested and proven strategy of a military alliance like NATO may form against China in future. India, Japan and Australia and some of the ASEAN nations will take part in such a alliance in future without considering the geographical separations. Second, the US will dominate Indian Ocean while expanding its presence in the Ocean. A recent review of the Pacific Command as Indo-Pacific Command may be the commencing point of this strategy. The US may seek harbour facilities from Sri Lanka under this strategy directly or through her one of her allies like Japan. Third, the US will undertake clandestine operations which were tested during the Cold War era to change political regimes of the countries who tilted towards China's side. Some clues among the scholars that political changes took place in Sri Lanka during the 2015 election were also the part of this US strategy. Fourth, the US has already started a trade war with China to slow down its economic growth. This strategy denies China's ability to feed the large military and its foreign direct investments. Fifth, the US has developed a strong relationship with India in all sectors while dropping Pakistan. Even though, India has still not signed the Nuclear Non-Proliferations Treaty, the US has given least concern on it and gradually easing the pressure on India. Sixth, the US will fund separatist organizations or extremist religious groups through a third party in order to disable the stability of the partners of "One Belt One Road".

India has kept its close tab on Chinese development and its investment on strategic infrastructure development within and beyond India's proximity. These developments seem to be encircling India by China. India has experienced border disputes with China after gaining independence and that bitter experience boosts the unrest on India's security policy makers with respect to Chinese development and relations with the closest Indian neighbours. India's bitter memories on 1961 war with China, still exists and India has proved it can scarify or pay any cost to counter Chinese threats during the period of Cold-War to date. Moreover, past bad experiences, such as East Pakistan War in 1971, deployment of Pakistan submarine PNS Ghazi at Visakhapatnam harbour entrance, targeting INS Vikrant and also Indonesian support to Pakistan Navy to deliver surprise attack to Andaman Island in 1965 during Indo-Pak War. Furthermore, Sri Lanka too extended support to Pakistan military by facilitating and offering her airfield and harbours while rejecting India's request to berth Cochin bound Oil tankers at Colombo harbour. Sri Lanka was the last among the South Asian regionl countries that recognized East Pakistan as Bangladesh. Early 1980, Sri Lanka has given its territory to establish the American Signal Centre so called "Voice of America" despite the pressure from India.

With those bitter memories and experiences, as counter diplomacy, firstly, India is developing a close bilateral relationship with the United States both in the military and economic sectors while keeping away of its non-alighment values in order to counter China's influences in the region. Secondly, India is developing bilateral and multilateral relations in both military and economic sectors among the neighbours of China under reshaping of the "India's Look East Policy" to "Act East Policy" in order to sideline with China. Both India and China have border disputes with all of its neighbours and India seems to be taken advantage of it. During India's 70th National Day celebrations, almost all the ASEAN leaders were at Delhi. Delhi objectives were to expand economical, political and military

relations with ASEAN countries and Japan in order to isolate China. Thirdly, Indian hegemony over the partners of the "One Belt One Road Initiative" especially the South Indian neighbours will be increased in every means. Under this strategy, India will undertake clandestine operations in order to change the political regimes of neighbouring countries. This strategy, well proven and already tested. It includes training, supporting, lodging and funding to the separatist movements of neighbouring countries. This strategy already used by India during separatist movement of East Pakistan and early 1980s separatist war in Sri Lanka.

Based on these bitter experiences Indian Security Architectures keep their close eye on Sri Lankan affairs with regional and extra-regional powers. Since the independent Sri Lankan foreign policy has shaped as counterpoise against the Indian threats. In this context, Sri Lanka's bilateral relations with China should shape up with careful attention. Since gaining independence, Sri Lanka's foreign policy has fluctuated from 'Conformist' to 'Non-conformist'. Indian foreign policy depends on the policies of two major political parties who were ruling the country time to time. As a result of these fluctuations of foreign policy, Sri Lanka rewarded with 30 years of tamil terrorism which initially was sponsored by India during the period of 1978 to 1987. World's respond over India's violation of Sri Lanka's air space on 04th June 1987 was the classic example for learning lessons about Sri Lanka's position in global affairs with respect to Indian factor. Hence, Sri Lankan bi-lateral relations with China or any other country are not to be shaped up as counterpoise against the India especially when cultivation of relations with India's adversaries and it is not to be hampered Indian national security interest. Sri Lankan policy makers should realize the harsh reality that the geographical location of Sri Lanka is within the national security umbrella of India.

While I was concluding this article, haversack bomb blast had taken place on 21st April this year. Nobody expected such kind of suicide attack in our motherland. However, our motherland is exposing to "Terror". After gaining independence, we fought three "Wars" (whatever the nomenclature) 1971, 1989 and 1980 to 2009 and lost thousands of youths who were the future leaders. It led to creating a vacuum in the leadership of our country. Have we learnt lessons from the past?

How our military reacted just after the 21/4 bomb explosion. Did we display the experiences gained from the past? What a professionalism did we show while "controlled explosion of Bomb Van" in front of civilian/foreign media (which was found just 300 m from the victimized sight after more than 40 hours) in the crowded city and during the raid of NTJ's safe house at Dematagoda by our Special Forces? However, it is too early to conclude/match 21/4 and the power tussle in the region. and following 8 questions are remained unsolved for a time being.

1. Why NTJ sent two suicide bombers to "Shangri-La"?
2.. Why NTJ targeted "Tourists'?
3. Why NTJ didn't target Churches in Northern Peninsular?
4. Why NTJ selected a Church in Batticaloa?
5. Was there any intelligence sharing between the RAW and CIA with regarding 21/4 attack?

6. Waht was the reaction of US and India after 21/4 attack?

7. Has it been an undue advantage to any country?

8. Does 21/4 attack effects on "One Road One Belt" initiative and Chinese mega invesments in Sri Lanka?

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ROLE OF CIVIL SOCIETY PROMOTING GOOD GOVERNANCE IN SRI LANKA

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"Good governance is a process of making decisions and implementing them and it is not about making 'correct' decisions but the best possible process. The responsibility of promoting good governance of a country lays on the government as well as the general public. The civil society is one of the important stakeholders. There are many aspects where the members of the civil society can contribute promoting good governance. It is a prime responsibility of all members of the civil society to make every endeavour to promote good governance which leads to a sustainable development as the end result".

Introduction

The concept of governance and good governance has been using widely throughout the world since last twenty years in academic and donor communities. However, in Sri Lanka it was prominently emerged the concept of good governance with the last presidential and parliamentarian elections. Hence, the new government of Sri Lanka is in a process of inculcating the concept of good governance in the country.

Further, 'Good Governance' is a concept of the values on which the government's activities are understood and it is a method of interacting groups of social actors in certain circumstances in the society. However, good governance concept is supported by number of identified principles as there is no any firm definition for the term 'Good overnance'. In fact, the principles include participation, rule of law, transparency of decision making or openness, accountability, predictability or coherence and effectiveness.

In addition, the responsibility of promoting good governance of a country lays on the government as well as the general public i.e. the civil society of the respective country. Hence, it is utmost important to discuss the responsibility of the general public and the government in view of promoting good governance in Sri Lanka or any other country. Nevertheless, it is practically imperative to identify the role of the civil society in this aspect as far as the present Sri Lankan context is concerned.

Governance and Good Governance

'Governance' can be described as the process of decision making and the process of implementation of them. Further, there are several environments which governance can be implemented such as corporate governance, international governance, national governance, local governance, democratic governance, liberal governance, global governance and participatory governance etc.

Actors in governance are the government and the civil society which comprises of actors other than the government and the military. There are number of other actors involve

in governance and they are as follows:

1. NGOs
2. Research Institutes
3. Religious Leaders
4. Finance Institutions
5. Political Parties
6. The Military
7. Media
8. Lobbyists
9. International Donors
10. Multi-National Corporations

Good governance has been described by many scholars in many ways in the academic arena. This term is defined as "The manner in which power is exercised in the management of a country's economic and social resources for development" by the World Bank. As per former Secretary General of United Nations, Mr Kofi Annan has described good governance that it is "Perhaps the single most important factor in eradicating poverty and promoting development" (United Nations University, 2002). Moreover, one of the former presidents of India Mrs Pratibha Patil said "Corruption is the enemy of development, and of good governance. It must be got rid of. Both the government and the people at large must come together to achieve this national objective". However, there is no any generally recognised definition for the term good governance as explained at the very beginning of this article.

Further, it is a process adopted by public organisations conducting public affairs; manage public resources and ensuring of human rights without abuse and corruption, in accordance with rule of law. On one hand, it is a great opportunity for the existing government to prove their people friendly execution of power and on the other hand, good governance is also about equity as well as fairness. Further, the ethical and moral behaviour of the government while providing the same opportunities for all citizens irrespective of their political ideas and connections.

The responsibility of the government and also the governing bodies in the aspect of fulfilling the requirements of the whole society is reminded by this concept of good governance. Simply, it doesn't allow considering only a specific group in the society where no discrimination is possible. Governance is considered "good" and "democratic" to the degree in which a country's institutions and processes are transparent. Its institutions refer to such bodies as parliament and ministries. Its processes to be free of corruption and accountable to the people. It is about the processes for making and implementing decisions. It's not about making 'correct' decisions, but about the best possible process for making those decisions.

Good governance is a term used in international development literature to describe how public institutions conduct public affairs and manage public resources. Its concept often emerges as a model to compare ineffective economies or political bodies with viable, effective economies and political bodies in the world. The good governance is the degree to which institutions of governance delivers/guarantee effectively the right to health, adequate housing, sufficient food, quality education, fair justice and personal security, human

rights and all other social rights. Corruption is one aspect of governance and it remains a grave challenge to the promotion of good governance, sustainable development, democracy, peace and stability. The trust and confidence of the public will be diminishing when the public feels that their government steals from the people.

Characteristics of Good Governance

As per the resolution 2000/64; the United Nations Organization has identified 08 major characteristics that describe as key attributes of good governance. Participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law are the said characteristics and elaborated as follows:

Participatory

Anyone affected by or interested in a decision should have the opportunity to participate in the process making decision. Participation by both men and women is important in good governance. The participation is direct or through legitimate intermediate institutions or representatives. Participation needs to be informed and organized.

Consensus Oriented

There are several actors and as many views in a society. Good governance requires mediation of the different interests in society to reach a broad consensus in society on what is in the best interest of the whole community and how this can be achieved. It can be achieved by only understanding historical, cultural and social contexts of the society or community.

Accountable

Accountability is a fundamental and key requirement of good governance. Local government has an obligation to report, explain and be answerable for the consequences. The private sector and civil society organizations also be accountable to the public as well as institutional stakeholders. In general an organization or an institution is accountable to those who will be affected by its decisions or actions. Transparency and the rule of law are essential for accountability.

Transparent

People should be able to follow and understand the decision-making process. They will clearly see how and why a decision was made. Transparency means that decisions taken and their enforcement are done in a manner that follows rules and regulations. Further, that information is freely available and directly accessible to affected people.

Responsive

The government should always try to serve the needs of the entire community while balancing competing interests in a timely, appropriate and responsive manner. Further, good governance requires that institutions and processes try to serve all stakeholders in a reasonable timeframe.

Effective and Efficient

The government should implement decisions and follow processes that make the best use of the available people, resources and time to ensure the best possible results. The processes and institutions produce results that meet the needs of society while making the best use of resources at their disposal which is good governance. The concept of efficiency in good governance also covers effective use of natural resources and the environment protection.

Equitable and Inclusive

A society's wellbeing results from all of its members feeling that their interests have been considered by government in the decision-making process. This means that all groups, particularly the most vulnerable, should have opportunities to participate in the process and maintain well-being.

Follows the Rule of Law

This means that decisions are consistent with relevant legislation or common law. Good governance requires fair legal framework and it also requires full protection of human rights, particularly those of minorities. Impartial enforcement of laws requires an independent judiciary and an impartial and incorruptible police force.

Role of the Civil Society

There are number of bodies that have the responsibility in promoting good governance in a country or a state and these bodies are the stake holders i.e. the state or the government, private sector and the civil society. These stakeholders are there to achieve good governance which leads the country to the development i.e. the final outcome.
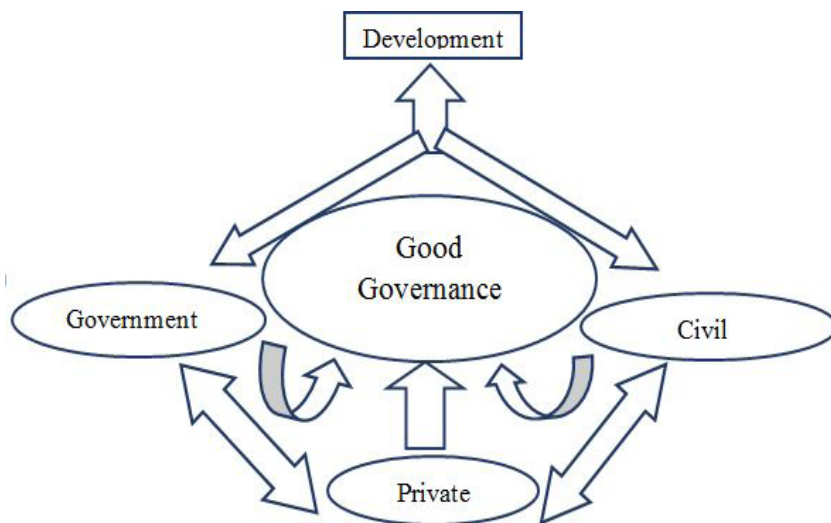
Figure 1: Development Paradigm
Source: (Survey Data)

Among all the stake holders civil society is very important and that has an immense responsibility in promoting good governance in a country. Hence, it is very much practical

to identify the role of the civil society in the event of implementing good governance in Sri Lanka. Generally, the civil society is actors except the government and the military.

As far as the concept of good governance is concerned the people in Sri Lanka have the mentality that it is totally a responsibility of the existing government whereas all the stakeholders are equally responsible for it. Hence, every one of the civil society has a tremendous role to play in promoting good governance in the country. It can be elaborated in accordance with the characteristics of good governance for easy assimilation.

It is very important the participation of the civil society in decision making process in the country. Importantly, the selecting of the most suitable politicians for the country is one of the main roles of the civil society as the initial step of good governance. Hence, it is a necessity to use own voting rights to the betterment of the country. Similarly, there should not be any gender disparity in participation and also there should not be race or religion discrimination where every citizen is a Sri Lankan. It is a must to have individuals or groups such as 'Purawesi Balaya' to highlight the anti-good governance acts of the government in view of promoting good governance. Further, the society needs to act against corruptions and other illegal activities.

Furthermore, the society needs to concentrate on its best interest while considering the different interests of it and the way of achieving. In this aspect the society needs to consider history, culture as well as the social contexts as it gives results with better understanding. This is basically how the civil society becomes consensus oriented in promoting good governance. A classic example for deviating from consensus oriented system is Economic and Technology Cooporation Framework Agreement (ETCA) which was delayed signing due to heavy objection from the society. The civil society also has the accountability as a stakeholder in taking decisions and its actions. The selection of most suitable politician as their representative is an accountability for the society. The wrong selection may badly effect on good governance.

Transparency of the government actions to the society is one of the important characteristics of good governance. In this aspect society's responsibility depends on the extent of transparency of the actions. The society must question the government or any other stake holder where there is any observation of lack of transparency. It is a making path for corruptions if it keeps silent in such situations. It was indicated that there was no information revealed on the Port City project by the previous government to the general public i.e. lack of transparency. In that context the civil society's role must be to raise their voice against the non-compliance with the intention of promoting good governance.

The civil society should be considered the responsiveness of the government where it can be criticised the occasions that there is no responsiveness. Presently, the elephant and human conflicts are very common in the society. However, it was observed that the main complain of victims is that the wild life officials do not react timely and appropriately. The responsibility of the civil society in such situations would be to take action to avoid same by giving strong objection on it.

Effectiveness is doing the right thing while efficiency is doing the thing right. Productivity is the combination of effectiveness and efficiency where the society could react upon the government's decision making without productivity. It can be considered the Maththala

airport as well as the port of Hambanthota constructed by the previous government without considering the productivity. However, it is essential to make reactions by the society in view of preventing such decisions.

The government needs to provide equal opportunities to everyone as per the characteristic of equity in the process of promoting good governance in the country. The civil society's role must be to entice the government to avoid inequity. The society also needs to take steps to avoid discrimination in any aspect such as race, religion or the gender.

The most prominent and important characteristic in good governance is following the rule of law. Rules and regulations are very important for smooth function of any organisation. Hence, rules and lows are there to adhere rather than violating them. It is essential to obey law of the country being the member of the society. Further, controlling corruptions, child abuses, bribery and any other illegal activities mainly taken place due to lack of social responsibility. Being a member of the civil society, asiistant could be rendered to promote good governance by not entertaining bribery. Further, violating of simple traffic rules should not be ended up by giving some amount of money to the respective policemen. It helps to make a corrupted police to the country and it is necessary to adhere simple rules such as crossing the roads through zebra crossings, using right side of the road as a pedestrian and other traffic rules etc. Civil society must consider on areas where malpractices can be occurred such as tender procedure.

Conclusion

Good governance is a process of making decisions and implementing them and it is not about making 'correct' decisions but the best possible process. This process has many stakeholders and civil society is one of the important stakeholders. As far as the role of the society is concerned it was discussed elaborately in accordance with the characteristics of good governance.

In addition, there are many aspects where the members of the civil society can contribute in promoting good governance. Those aspetcs can be formed in very simple rules to very strong strategic rules which can be supported the good governance. It is a prime responsibility of all the members of the civil society to make every endeavour to promote good governance.

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ADVENT OF NUCLEAR WEAPONS AMONG INDIA & PAKISTAN AND STABILITY IN-STABILITY PARADOX IN SOUTH ASIA

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" Pulwama attack on 14 February 2019 and the subsequent tension between India and Pakistan has drawn the attention of the entire world towards the South Asian Region. Fortunately, it was not escalated into a major war or nuclear retaliation. However, two nuclear states have made the South Asian Region a simmering pot of potential conflict. One country believes nuclear weapons of other country is posing a significant threats to its national security. Therefore, the preventive strikes appear to remain a viable option thus the arrival of nuclear weapons has created stability instability paradox in the South Asian region".

Introduction

The horrendous experience at Hiroshima and Nagasaki created a global proposition that nuclear weapons should be totally eliminated from the world.[1] But, the Cold war dragged the world into arms race which caused a severe stockpiling of nuclear weapons. The tension between US and USSR was at its peak during 1962 Cuban missile crisis. However, with the disintegration of USSR in 1991 hostilities between two blocks literally came to an end and 'arms control' and 'disarmament 'dialogues started to gather some momentum. At this very back drop India and Pakistan declared their nuclear capabilities; two hostile countries that wagged several bloody wars, acquiring nuclear status became a revolutionary event in nuclear saga.

After a series of several cold tests, in 1998 India has tested five nuclear weapons at Pokhran in Rajasthan and Pakistan followed suit with six tests in the state of Baluchistan. This upheaval warned the world the potential nuclear threat in the South Asia.[2] The arrival of the nuclear weapons in South Asia was a shock amidst global disarmament and arms control dialogues. Further, their 1,800-mile long border became the only place in the world where two aggressive countries, armed with nuclear weapons face-off each other every single day.[3] There were several tensed situations between India and Pakistan, few of which considered being near misses. However, experts of nuclear strategy tend to provide twofold opinion; some say arrival of nuclear weapons stabiliz the region while others say it destabiliz the region. Thus, the security dilemma whether two countries become more secure or vulnerable for getting into nuclear war will be examined in this paper.

Advent of Nuclear Weapons

Some explain the initiation of Indian nuclear programme based on the Chinese threat.

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As China and India fought a war in 1962, the claim cannot be just ruled out.[4] Perhaps, Chinese nuclear programmes could have impacted the Indian choice. On the other hand, Pakistan claimed its decision to acquire nuclear weapons was prompted by India. The proposition made by Pakistan seems to be compelling; however, Pakistan had experienced military disparity for many years before India acquiring nuclear power. According to nuclear projects of both countries, they might have initiated collection of fissile materials well in advance to be able to conduct Cold tests in early seventies.

It is aptly characterised by "Mere Realism" that India was longing to become a world power in which nuclear capability was a prerequisite.[5] The motive behind Pakistan was supposedly to gain international attention. Pakistan doubted India would invade and annex the disputed region using superior military power. Pakistan becoming a nuclear state means, Indo-Pakistan rivalry becomes nuclear crisis that International community cannot disregard anymore.[6] Therefore it is unlikely that either countries would discontinue their nuclear programmes in foreseeable future.

Perilous Civil Military Relations

In comparative terms, Pakistan nuclear programmes were more militarily driven. However the contribution of Dr Q Khan and other civilian scientists is greatly impacted the political decisions. The Indian military forces are structured under strong institutional and civilian control that they have very little direct influence of nuclear arsenal. Still, former Prime Minister of India Mrs Indira Ghandi was in enormous military pressure that she once considered but then rejected plans to attack Pakistan nuclear facilities at Kahuta in 1980s.[7] According to US intelligence reports in 1999, Pakistan military leaders took initial steps to alert its nuclear weapons without the Prime Minister's knowledge. Then again, the decision taken by Nawaz Sharif to withdraw Pakistani troops was heavily influenced the military coup later in the year. The military led government under Perwesh Musharraf commented that "Nawaz Sharif lost courage and backed down unnecessarily"[8]. The Indian military influence better exemplified during the 2001 December 13th attack to Indian parliament. Indian troops were sent to boarders, India warned Musharf to crack down on the radical Islamic groups that supported terrorist operations in Kashmir and New Delhi. The Army Chief of India issued a bellicose statement. The hostilities in Jammu and Kashmir are one of the contemporary examples that military forces of both countries have taken the Nuclear balance as granted and disregard that situation would lead to another war.

Nuclear Deterrence

Theoretically, the nuclear deterrence that can guarantee the Mutually Assured Destrucion (MAD) was the trading currency.[9] The term 'MAD' was used to describe the nuclear

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8   Sagan, Scott D. "The perils of proliferation in South Asia." *Asian Survey* 41, no. 6 (2001): 1064-1086.

9   P, Robert. Nuclear deterrence theory: The search for credibility. Cambridge University Press, 1990.

capability of US and USSR during the Cold war. The overarching concept describes the ability to defend first strike and launch the second attack successfully. The nuclear deterrence phenomenon in South Asian Region is unique due to few reasons. Most significant one is the nature of deterrence between two neighbouring countries without having MAD. As per the latest nuclear programmes, India is working to acquire second strike capability. As per Khalid Iqbal, Pakistan choice was 'War Denying Deterrence'; war denying deterrence required a minimum number of weapons.[10] Yet, none of two has achieved wide-ranging nuclear capability to be able to launch second strike. Further, this volatile situation has driven the both countries towards proactive measures to get rid of each other's nuclear intimidation. Thus, preventive or pre-emptive attack to destroy nuclear facilities of either remains a greater possibility and which definitely trigger another major war. As Paul indicates that, there were 43 confrontations between India and Pakistan in the past and the attributes of individual patterns indicate 'Enduring Rivalry'[11]. Some Western experts worry about the Pakistan ability to counter pre-emptive attack from India. The range of Pritthvi missile and Pakistani strategic depth; all Air Force bases are within the range of Indian bombers. However, Pakistan displayed that they have the ability to control their air space during recent Indian air strikes.

On the other hand, during the Kargil Crisis in 1989 Pakistani military leaders tended to plan their operations, ignoring the international reactions and domestic consequences. This was known as 'Stability Instability Paradox'[12] that somewhat stable nuclear balance between India and Pakistan permitted more offensive actions to be taken place. Whereas, same condition has explained by Ganguly as "Pakistani boldness and Indian restraint have actually resulted from instability in the strategic environment. A full-scale Indo-Pakistani conventional conflict would create a significant risk of nuclear escalation".[13] The military leaders of Pakistan have mentioned to the government that "There is almost a red alert situation" but nevertheless insisted "There is no chance of the Kargil Crisis leading to fully-fledged war between two sides".[14] It is believed that both countries still dependent on Military bias under preventive law logic "Better now than later".[15] The arrival of nuclear weapons between India and Pakistan thus has elevated the level of tension.

Weighing Tension Against Collaboration

It is ideal to juxtapose the hostilities and collaboration between two countries for understanding the existential threat. Early in 1946, there was an informal hotline established at Joint Defence Council (JDC) by the mediation of British officials.[16] However, two countries went to war in 1947 and 1965 due to Jammu and Kashmir. Again, there was an in-

10 Khalid Iqbal India and Pakistan's Nuclear Doctrines and Posture: A Comparative Analysis,A Quarterly Magazine for a Discerning ReadershipPosted on September 9, 2016.

11 Paul, Thazha V., ed. The India-Pakistan conflict: an enduring rivalry. Cambridge University Press, 2005.

12 Ganguly, Sumit. "Indo☐Pakistani Nuclear issues and the stability/instability paradox." Studies in Conflict & Terrorism 18, no. 4 (1995): 325-334.

13 Kapur, S. Paul. "India and Pakistan's Unstable Peace: Why Nuclear South Asia Is Not Like Cold War Europe." International Security 30, no. 2 (2005): 127-152.

14 Ibid.

15 Silverstone, Scott A. "Preventive War and the Problem of Post-Conflict Political Order." International Interactions 37, no. 1 (2011): 107-116.

16 Krepon, Michael, and AmitSevak, eds. *Crisis prevention, confidence building, and reconciliation in South Asia*. Manohar Publishers, 1996.

formal agreement between Air Force Commanders not to use air power on ground troops considering the possible devastation on the infantry who were operating on open terrain.[17]. When they fought for the third time in 1971 both parties ensured that earlier made agreements were honoured in its entirety. Nevertheless during Kargil Crisis in 1999 Indian Air Force has carried out air strikes against previous agreements.

The Indian military exercise 'Brass Tack' which was considered to be the largest stand-off after the second World War with more than 80,000 military forces involved along the boarder state of Rajastan was able to sort out through the diplomatic agreements. The Foreign Secretaries of both countries were able to negotiate for a hotline with the mediation of US[18]. After the Brass Tacks, Prime Ministers Rajive Ghandi and Benazir Bhutho came to a bi-lateral agreement not to attack nuclear facilities of each other. In 1989, they started bi-annual meeting to discuss on security matters of common interest. To augment the confidence between two countries both have exchanged the list of nuclear facilities in 1992. Though, in 2001 hostilities began and there were massive tension calling a huge military stand-off. Now, in 2019 latest development aptly indicate how dangerous the situation could be. Henceforth, the entire spectrum of collaborative measures have become futile and is at a risk as both countries easily getting into hostile mood. So, looking at the recent events it is unlikely that permanent stability or peace would prevail in near future.

International Intervention

The international intervention to India – Pakistan nuclear rivalry is important to examine in two ways. First, how did both the countries support to acquire nuclear power? Second how did the international community react for nuclear weapons? The US, Canada, France and UK have supported India for its nuclear programme. The US and Western attempt was twofold; first, to assist India on acquiring technical knowhow on the commercial nuclear plants to generate power, second, to persuade India on the strict adherence of peaceful use of nuclear power. However, during the Indo- Pakistan war in 1971, US Navy moved air craft carrier USS Enterprise into Indian Ocean. Later India agreed to settle the tension by diplomatic means. India used US action as a catalyst to gain popular support for nuclear programme. On the other hand, some western countries and later China have supported the nuclear programme of Pakistan.

In 1974 India named its nuclear test as peaceful explosion[19], however, it was extremely criticised by international community including United Nation. Several countries cut off the trade deals and UN imposed sanctions. In 1998 after major nuclear tests by both countries same repercussions were followed; nevertheless, both India and Pakistan have become de-facto nuclear states thereafter. The international pressure was heavily instrumental to settle several incidents without escalated in to another war. Same time, there were lot of tension generated over the allegation on Dr AQ Khan's alleged nuclear deals and Islamabad connection with cross broader terrorist groups.[20] After the 9/11attack, the

17 Ibid.

18 Ladwig III, Walter C. "A cold start for hot wars? The Indian army's new limited war doctrine." *International Security* 32, no. 3 (2008): 158-190.

19 Perkovich, George. *India's nuclear bomb: the impact on global proliferation*. Univ of California Press, 2002.

20   Mohanty, Nirode. "Eating Grass for Nuclear Bombs: 1971–1979." In America, Pakistan, and the India Factor, pp. 51-66. Palgrave Macmillan, New York, 2013.

Bush government has warned Pakistan to either be side with US for fighting war on terror or else be treated as a terrorist state. Prime Minister Musharraf agreed to provide logistic and intelligence support to US. Recently India declared that it supports the development of the US missile defence technology and plan to develop their own. Thus international intervention was in-sufficient to coerce India or Pakistan to get rid of nuclear rivalry.

Arms Control and Disarmament

In 1963, Moscow and Washington have finally begun to pursue arms control, establishing hotline between two ends in month of June, partial test ban treaty in August and ban on mass destruction weapons in September.[21] India has grappled with the twin desires to have and to renounce the bomb. Both India and Pakistan have taken a soft approach towards arms control and disarmament programmes. Neither India nor Pakistan is signatory to Non-Proliferation Treaty (NPT).Both India and Pakistan have rejected the Comprehensive Nuclear Test Ban Treaty (CTBT) of 1996.[22] Thus International treaties or conventions could not prevent the nuclear rivalry between two countries.

Further, both India and Pakistan find they are treated by double standard while India denies any third party involvement in dispute; India calling it discrimination that Western countries think "Black man has no ability to hold the responsibility like white man". Pakistan also has stated that "Peace and security in South Asia cannot be promoted and sustained on the basis of discrimination and double standards".[23] Pakistan also has indicated its condemnation by stating "We will not accept commitments which would permanently jeopardise the ability of Pakistan which India possess to our security".[24]

The Risk of Failure or Accident

The 'Risk of Accident' that prevails due to India –Pakistan nuclear rivalry is pronounced by many scholars as most dangerous threat. During the Cold war, the US and USSR had high level assertive command and control system, tight high level civilian control. Specially, Pakistan nuclear weapons do not have 'Permissive Action Links' (PAL); the advanced electronic locks. Similarly, Pakistan had alarmed its nuclear weapons during Kargil and 2001 crisis. On the other hand, Indian accidental fire of Milan Missile, in 2001 was another real example.

The false alarming is the other fact; When Pakistan was about to test its nuclear weapons they had received a warning that Israel and Indian Air force were about to launch attacks on test ground. The air raid warning created a huge tension. Later an explosion near Rawalpindi dump (Pakistan accident) developed a further confusion among Pakistan military forces and prepared for retaliations assuming India had been launching nuclear weapon or air strike.

Again, the reliability of personnel who deals with nuclear weapons is another problem-

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21   Adler, Emanuel. "The emergence of cooperation: national epistemic communities and the international evolution of the idea of nuclear arms control." International organization 46, no. 1 (1992): 101-14

22   Perkovich, George. India's Nuclear Bomb: The Impact on Global Proliferation. Berkeley, CA: University of California Press, 1999.

23   Kapur, S. Paul. Dangerous deterrent: Nuclear weapons proliferation and conflict in South Asia. Stanford University Press, 2007.

24   Ibid.

atic domain; a Personnel Reliability Programme (PRP) is not done for Pakistan personnel and not regular in India; these psychological tests and organizational checks designed to ensure personnel are fit for the nuclear duties. As Sagan explains "The personnel reliability in India is serious; particularly worrisome in Pakistan".[25]

The 'Cold Start' doctrine was formed by India after the Mumbai attack; it is meant to mobilize half a million troops within 72 hours. Pakistan has shifted towards field short-range, low yield Tactical Nuclear Weapons (TNW). At the present rate "Pakistan will reportedly have enough fissile material by 2020 to build more than 200 nuclear warheads"[26]

During 9/11 attack and 12/13 (Mumbai) attacks, Pakistan has alerted and moved their nuclear weapons on the suspicion that US or Indian air strikes. These movements have become frequent occurrence in Pakistan. However, the possibility of exposure of those nuclear weapons to terrorist organizations or extremist groups seems to be higher; either theft or attack could result in devastation. As Sagan explains; "Pakistan is deploying nuclear weapons into more vulnerable to theft or internal attack by terrorist organizations"[27]. Thus the possibility of kind of nuclear accident within two countries is grater and repercussion would be catastrophic in many ways.

Regional and the Global Implications

The peace talks between two countries are in a state of stalemate. There is no foreseeable settlement in near terms. India seeks permanent seat in Security Council and anticipates becoming a global player. Pakistan struggles with intrastate conflicts and experiencing tension in either side of borders. South Asia as a region has stagnated and lagged behind other regions in the world. There are no regional organizations that can represent region and make strong voice in international forums. As an example, the South Asian Association for Regional Co-operation (SAARC) has become a failure. It was the only regional organization that all countries were able to get together in 1985 and it seemed to be promising during first few years; however, with the escalation of India Pakistan hostilities it collapsed and became ineffective. Buzan has mentioned "Strong states make strong regions and weak states, in their quest for power and security, tend to create conflicts or are considered so weak that they do not form a region at all".[28] On the other hand Pakistan has made alliances outside the region to ensure balance between Indian military and economic strength. The recent China- Pakistan relations also show how Pakistan has looked beyond the South Asian region. Similarly, India-US relations have created two strategic blocks and further increase the disparities between two belligerents. Thus with the arrival of nuclear weapons, the South Asian region has become much more unstable.

"Pakistan and India seem to be caught in a cycle that they could not break out of, I was convinced if a war started it would be nuclear"

-Robert M Gates, US deputy security Adviser

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25   Sagan, Scott D., and Kenneth N. Waltz. "The spread of nuclear weapons: A debate Renewed." (2003).

26   Ibid.

27   Ibid.

28   Shaw, Timothy M & others. The Ashgate Research Companion to Regionalisms.Ashgate Research Companion. [E-book] Abingdon: Routledge, 2016. https://www.routledgehandbooks.com/doi/10.4324/9781315613499 (Accessed April 12, 2019).

MANAGING GLOBAL CLIMATIC CHANGE AND HAZARDS IN SRI LANKA

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"Global climatic change and related hazards are complementary phenomena which posed enormous challenges on the livelihood, society and economic growth of the country. Consequently, the adverse effects are mainly inevitable and Sri Lanka is continued to be victims of it. Hence, it is vital to be prepared and safeguarded by ourselves from the adverse effects of climatic change and related hazards. Hence, Mitigating and Adaptation policies are the two main policy approaches to managing the adverse effects of climatic change and hazards."

Introduction

Sri Lanka is a small island and tropical country which is located close to the equator. As per Kottawarachchi (2017) the country is presently being faced with a series of threats from the climate-related hazards. Further, Aheeyar (2012) illustrates that global climate is changing rapidly and Sri Lanka has become one of the main victims in the South Asian Region. Consequently, continuous changes of climate have posed a significant hazard to the country's biodiversity in the forest, freshwater wetlands, coastal line, coral reef environments, marine ecosystems, and agricultural system. As per Silva and Ll, (2017), these climate-related hazards have caused devastating impacts on our environment, citizens, infrastructure, businesses, and the national income too. As a Global South nation with limited available resources, managing climatic change and hazards is a challengeable task. However, Ernmenta and Nel (2015) highlights, there are two main policy implementation approaches such as mitigation and adaptation as a viable solution to the country.

Impacts and Cost of Climatic Changes Hazards in Sri Lanka

Silva (2019) highlighted that Sri Lanka has faced various adverse effects of global climatic change and paved a huge impact to the country over the last 20 years in many aspects. As per Ranasinghe (2010), the continuous rising of global warming and sea level is a closely associated phenomenon and posed a major risk to a small island nation like Sri Lanka. In addition to that, frequent occurrences of droughts/floods, increase in rainfall intensity and higher temperatures are significant hazards which currently being faced by the country. Further, those climatic-related hazards have led to adverse impacts such as landslides, coastal erosion, tropical storms, lightning, crop failures, siltation of reservoirs and increased frequency disease outbreaks. Especially, Disaster Centre (2009): Kottawa-arachchi (2017) indicates, majority of the country's population who involving in the tourism, fisheries, and agricultural sectors are residing on climatic hazards prone areas as indicated in figure 1. Therefore, the occurrence of any climatic hazards is invariably leading to major socio-economic implications such as losing income from agriculture/fisheries, declining tourists attraction, damages in public /natural resources..etc.
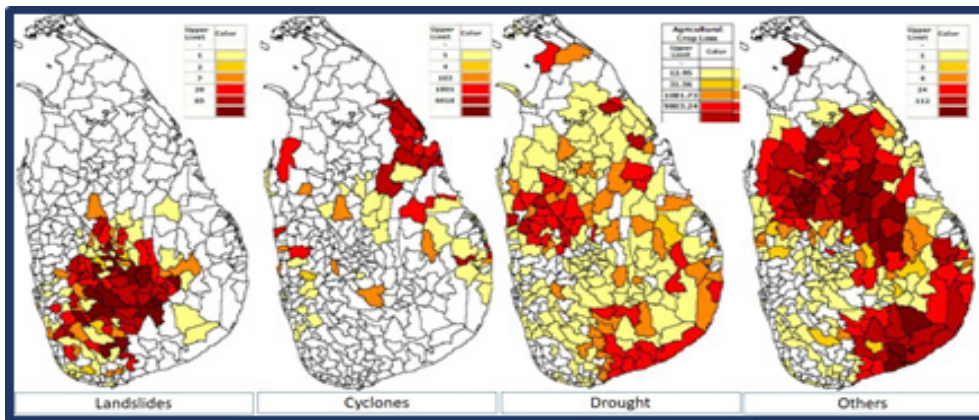
Figure 1: Sri Lanka Climate Hazards Prone Areas
Source: Disaster Management Centre (2015)

The costs of climatic change and hazards are leading to billions of rupees. Prema-chandra et al., (2017) predict the climatic related hazards would be recorded loss of Rs 4,795 million annually by 2020. Further, Sri Lanka development (2017) estimates the annual losses of agriculture, infrastructure and relief operation from climate-related hazards are estimated approximately at Rs 50 billion. This includes the highest annual expected losses from floods (Rs 32 billion) cyclones or high winds (11 billion), droughts (Rs 5.2 billion) and landslides (Rs1.8 billion) consecutively. Significantly, the figures are equal to 0.4% of GDP or 2.1 % of government expenditure in 2020. Hence, the destruction of physical assets, loss of humans, effects on social well-being, reconstruction, disaster relief, and recovery operations would have been consumed more resources that could be effectively utilized for the development of the country.

Green House Gas (GHG) Emission Profile of Sri Lanka
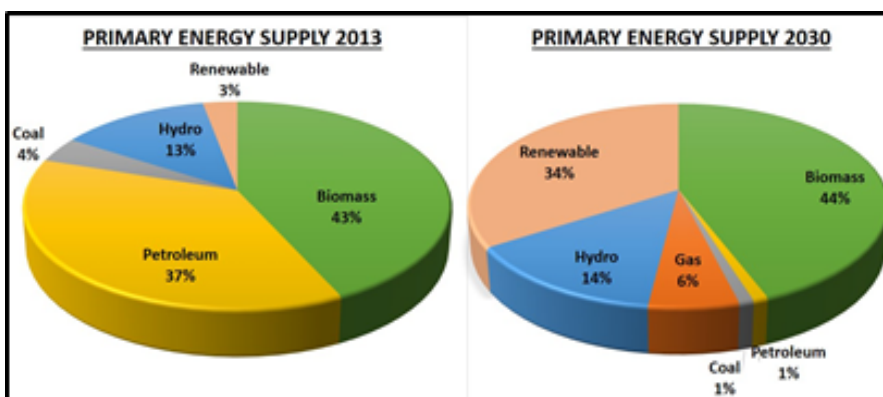
Figure 2: Sri Lanka Main Energy Sources
Source : Ministry of Power and Energy (2015)

As per Zylva (2017) describes, the GHG considered as the predominant factor for global climatic change by increasing the global temperature. Pathiraja et al., (2017) estimates, the average temperature would likely to be increased 1-2 C by 2020 with a relative in-

crease of existing GHG emission. Further, it will become catastrophic and irreversible if emissions continue to rise at the current rate.

Sri Lanka has become energy depended nation due to amplified local and foreign investments after the liberalizing the Sri Lankan economic policies. As a result of that, the energy sector has become prominent one and as per Minister of Power and Energy (2015), the main energy sources of the country is provided by hydro, coal, fossil fuel, and wind as indicated in figure 2. However, USAID (2015) estimates, the energy demand would be doubled by 2046 with the 80% rapid demand increment from the electricity and transportation sectors. The government policy is become energy self-sufficient nation by 2030 by integration with renewable and other indigenous energy resources while reducing the carbon footprint of the energy sector by 5% by 2030.

Figure 3: Sri Lanka GHG Emission by Sector 1990-2011
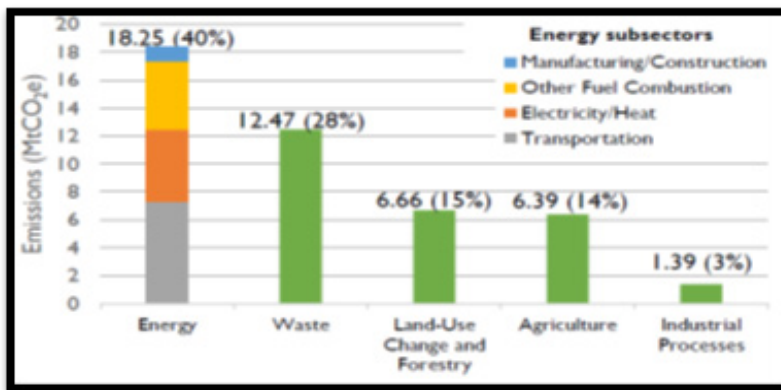**Source: USAID (2015)**

CDS (2019) indicate 281 numbers of firms are operating under various sectors and mainly contributes to the country's GHG emission as indicated in figure3. The energy sector has become a dominating sector by contributing 40% Sri Lanka GHG emission profile. This includes manufacturing/construction, other fuel combustion, electricity/heat and transportation. However, other significant contributory sectors are waste (28%), land-use change and forestry (15%), agriculture (14%) and industrial process (5%).

Climatic Change Hazards Mitigation Targets

The Paris Climate Change Agreement 2015 is considered as the landmark global initiative to limit the GHG emission. As per the United Nation (2015), 160 countries agreed to "limit the increase in the global average temperature to well below 2°C above pre-industrial levels and limit the temperature increase to 1.5°C above pre-industrial levels". Despite, the recent withdrawals of the US from the agreement, all the countries are committed to achieving the goals of the agreement. According to Zylva (2017), Sri Lanka has to reduce GHG emissions by 7% by 2030, achieving 4% from energy and 3% from other sectors as a Global South country. The biggest challenge is, reaching the perceived energy targets through the proper implementation of policies without scarifying the economic development of the country.

Managing Climatic Change and Climatic Hazards

Managing climatic change and hazards while maintaining the continuous pace of economic development requires a dedicated effort, coordination and contribution through appropriate policies. Ranasinghe (2010) highlights that two main policy aspects of managing climatic change and hazards as follows

1.   Mitigation policies
2.   Adaptation Policies

Mitigation Policies

As per Ranasinghe, (2010) the Mitigation policies are mainly focused on reducing the GHG and to shift to the low carbon economy. Despite, the major responsibility lies in the global North countries, Sri Lanka has to contribute to reduce GHG as per the Paris Climate Change Convention. Following strategies are great to deal with the reduction of the GHG emission.

1.   Shifting low energy emission technology.
2.   Increasing the efficiency of energy use.
3.   Energy strategies for controlling deforestation and reforestation.
4.   Setting prices for Carbon emission.

Mitigations Initiatives Made by Sri Lanka

1.   Conducting Carbon Neutral Programme to reduce carbon footprint through the changing environmental friendly design and greening mechanism such as Strategic Environmental Assessments (SEA), voluntary standards (ISO 9001, ISO 14,001), Green building concepts, the Green Tax, Cleaner production initiatives and Clean Development Mechanism (CDM).

2.   Tree planting in production premises as a proactive action to absorb the emitted CO_2 during the production process. As per Ranasinghe (2010), A single tree can absorb as much as 22 Kg of CO_2 per year which is the most effective tool for offsetting carbon emissions.

3.   The collaborative effort made by Faculty of Agriculture-University of Peradeniya, National Science Foundation and Department of Forest Conservation to plant 50,000 trees in every year to enhance Rainforests as highlighted by Sheham (2008).

4.   Installing renewable energy sources such as solar power generating plants, solar water pump, solar street lamps and solar thermal air-conditioning.

5.   Carbon emission estimation through the energy audit which gives a better understanding about the effectiveness of emission mitigation plan, identifying key areas to enhance environmental performance and keep the energy consumption as close as possible by adjustment on machines/process.

Adaptation Policies

Adoption Policies mainly involve reduceing the cost and disruption caused by the unavoidable climatic change hazards. As per Fernando et al., (2015) the adaptation policies

mainly focused on Global South countries which are prone to climate-related hazards and the effectiveness largely depends on the global mitigation efforts too.

Adaptation Initiatives Made by Sri Lanka

As a Global South country with limited choices and resources, Sri Lanka has taken number of initiatives for climatic change and hazards adaptation as follows.

1. Establishing a Climate Change Secretariat under the Ministry of Mahaweli Development and Environment.
2. Preparing a National Climate Change Policy in 2012.
3. Preparing a National Climate Change Adaptation Strategy 2011-2016.
4. Preparing a National Adaptation Plan for Climate Impacts in Sri Lanka 2016-2025.
5. Receiving technical assistance from the Asian Development Bank for strengthening the adaptation capacity.
6. Establishing a Green Climate Fund for a climate adaptation project in the North-central province.
7. Establishing Automatic Weather Stations (AWS) with high tech sensors at sensitive areas to get the real-time data updating and dissemination information with the National Meteorological Centre (NMC) and GTS (Global Telecommunication System).
8. Establishing the dedicated Climate Change Research Station (CCRS) to measure climate change conditions and data disseminate for scientists, state and non-governmental agencies, farmers and stakeholders.
9. Implementing a Water Management System through modified irrigation systems to reduce water wastage and energy consumption. This includes chemical and toxic water treatment before discharge to the environment to avoid water pollution.
10. Conducting community empowerment, awareness and capacity building programs to create active, continuous and climate-sensitive society. Further, traditional knowledge and wisdom of the local communities have integrated for better adaptation.
11. Educating physical resilient on human health by strengthening the community regarding the outbreak of post hazardous diseases.
12. Enhancing knowledge of food security by eliminating the use of chemical fertilizer and encourage to use of organic material to increase soil condition as well.
13. Preparing localized plans to safeguard natural resources and biodiversity from climate change impacts.
14. Establishing a motivation plan to inspire positive engagement in environmentally friendly projects to achieve individual net-zero carbon emissions with the global trend.

What Should be Prioritized? Adoptation or Mitigation Policies?

According to the USAID (2015), Sri Lanka total GHG emission is 45 $MtCO_2e*$ which is only 0.1% of world total GHG emission (46,906 $MtCO_2e$). Further, Sri Lanka per capita emission is 2.16 tCO_2e where the global rate (6.73 tCO_2e) is much higher than the country's profile. Despite, the country's GHG emission level is significantly lesser than the global values, Sri Lanka has to take actions as per the Paris agreement to reduce to GHG emission. As per Böhm, S., *et al* (2012), the implementation of mitigation strategies is

apparently involved in a long term basis which needs to maintain the correct balance with the economic development of the country. Further, the Global North officially utilizes the mitigation strategies to offset their carbon limits through the carbon market. But, adaptation policies are mainly deal with medium/short term actions which centered on enhancing the physical resilience in an individual country.

As a Global South nation, Sri Lanka has become a continuous victim of climatic change and hazards. Further, it is unable to make the precise forecast about where, when, what scale of climatic change and hazards occur and unable to stop if any such occurrences taking place too. So, it is vital to be prepared and safeguarded to encounter such impact of climatic change and hazards. Therefore, the most important thing is to increase the physical resilience to deal with the short term impact of climatic change and hazards in spite of looking at the long term policies. This uncertainty is heavily demanded early precautions to protect human life, infrastructure and country's resources. Hence, Sri Lanka needs more prioritize on climatic adaptation policies to build resilience to the climatic change hazards than the mitigation policies.

Challenges for Implementing Policies

Managing climate change and hazards can not be achieved without the dedication and effort. The challenges have identified as follows.

1.   Lack of initiatives to shift current business practices and convert to low GHG emission projects due to changing profit pattern. Hence, environmentally sustainable projects need to be integrated as profit-oriented business activities.

2.   Vital information has not been adequately filtered to the down level due to the communication gap. The majority is not aware of climatic change and opportunities available to reduce it. Hence, information on climatic change and hazards to be well communicated.

3.   The regulatory framework of the country does not adequately deal with the breeching of climatic-sensitive activities. Even though the strong legal framework and institutions have been established for environmental protection, the relevant agencies are not taking timely and appropriate actions.

4.   Lack of implementation of the National Adaptation Action Plan actions. Attention to be more focused on post-disaster management and essential measures of the climatic adaptation plan.

5.   Rapid development and infrastructure in environmentally sensitive areas is a threat to the balance of the ecosystem. Avoid such short-sighted development projects and or divert them to less vulnerable areas.

6.   Lack of proactive actions from the corporate sector to stimulus authorities on possible direct and indirect socio-economic losses of climatic change and hazards. Need to inculcate a common interest to work together with all the government and Non-government agencies.

7.   Lack of financial support to implement possible mitigate and adaption plans. The climatic resilience projects to be initiated in line with sustainable environmental proj-

ects of the funding agencies like the World Bank and the Asian Development Bank.

8.   Lack of technological climatic prediction and early warning systems to get precise information about climatic change and hazards.

Conclusion

Despite the fact that GHG emission is significantly low, Sri Lanka is more vulnerable to climatic change and hazards than other countries in the world. Although Global North attention has been significantly focused on mitigation the GHG emission and offsets their GHG with the Global South, the implementation of the same in Sri Lanka is rather difficult and inappropriate. However, focusing on the adaptation policies are much important than the mitigation policies in the Sri Lankan context. First, the concept of climatic change and associated hazards need to be realized, understood and communicated. Then, it is needed to have a thorough understanding of the Paris Agreement with the current statistical data on GHG emission between Global North and South, the intentions of Global North, details of rising global temperature and interrelationship to increase risk of climatic change and hazards. Finally, everybody has a unique responsibility to contribute to the action plans as a function of policy implementation. This study has closely explored both policies initiated by Sri Lanka against climatic change and hazards. However, the attention needs to be focused on the adaptation policies to manage climatic change and hazards in order to enhance physical resilience. Eventually, it is required to take necessary actions to improve the knowledge base to overcome the challenges for policy implementation.

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CONVERGENCE OR DIVERGENCE: THE CHINA - INDIA - JAPAN TRILEMMA & BRI

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Officer in Command - P 474

"Despite recent geo-political achievements for China on the BRI, the acute absence of India and Japan in the initiative remains to be its achilleas heels. This could be a persistent challenge in China's attempt to gain global acceptance setting precedence in a multilateral world order. Indeed, the Belt and Road Initiative has the potential of changing the global growth landscape through connectivity. In a sense BRI could be attributed as China's strategic tool in exploiting the void of an international world order."

Introduction

Modern China has never missed an opportunity to amaze the world with its master strokes. From the 2008 Beijing Olympics to date, China continues to do the unimaginable at a scale that defies rational thinking. At the time of writing, all focus is trained on China's event of the decade: the second 'Belt and Road Forum' in Beijing.

As China prepares for the second Belt and Road Forum in weeks' time, the initiative scored a homerun and gathered a red card successively. On 23rd March 2019, President Xi's BRI scored a homerun when Italy became the first G7 economy to join the initiative. This single event made the West realize that China was eventually knocking on the doors of Europe, despite their abject resistance and suspicions on China's grand connectivity master plan. If parallels to this event in the context of shock and awe could be drawn from history, it would be the 1683 Ottoman siege at the gates of Vienna.

While Italy's signing of memorandum of understanding with China gathered extra momentum into the buildup of the 2nd Belt and Road Forum, the jubilations were short lived. On 8th April, India turned down an official invitation extended by China for the event on the basis of concerns over sovereignty, equality and territorial integrity. Though, India boycotting President Xi's aggrandizement plans may reverberate concerns in Beijing, much hopes are alive in the possibility of Japan fielding a more high-level official delegation than in 2017. India and Japan remain to be the missing links of China's BRI and a persistent challenge for its credibility and aspirations in the region and beyond.

Thus, the essay attempts to sketch and understand the plausible future of the BRI with respect to India and Japan's concerns through as assessment of underlying interests and motives of respective countries. In this sense, the study approach threads through at what led to BRI in the first place and the existing philosophy behind at identifying a possible space for a China-India-Japan collaboration, sustaining relations and relevance in a new world order.

Formation of BRI and its Dimensions

"2,000-plus-year history of exchanges had proved that countries with differences in race, belief and cultural background can absolutely share peace and development as long as they persist in unity and mutual trust, equality and mutual benefit, mutual tolerance and learning from each other, as well as cooperation and win-win outcomes" -

President Xi Jinping, 07 September, 2013[1].

President Xi's speech delivered at the Nazarbayev University in Kazakhstan on 07th September 2013 could be traced as the first official declaration of the Belt and Road Initiative (BRI). Though the speech was in surface an invitation for Kazakhstan to join China's envisioned 'Silk Road Economic Belt' the target audience was much wider.

This proposal underscored the idea of greater cooperation for development between the Shanghai Cooperation and the Eurasian Community (Central, East, West and South Asia). In his speech President Xi laid out the basic tenants of this new development road map which encompasses a gradual approach towards regional cooperation and beyond: strengthening policy communication, improving road connectivity, promoting trade facilitation, enhancing monetary circulation and strengthening people-to-people interactions[2].

On October 2013, the proposal gained momentum when President Xi during his inaugural visit to Indonesia suggested the idea of promoting strong maritime cooperation and trade between China, Southeast Asia and South Asia through an enhanced maritime infrastructure network. This proposal later came to be known as China's '21st Century Maritime Silk Road'. According to the State Oceanic Administration (SOA), China's focal point for Marine Affairs, the 'Maritime Silk Road' underscores four key areas of interests: to developed blue economy, strong innovation capacity in maritime science and technology; protection of the maritime environment and a powerful navy[3].

In contrast to the Silk Road initiative the Maritime Road proposal gives away China's future ambitions for power and influence. Following these two key events in Kazakhstan and Indonesia the Chinese Communist Party (CCP) central economic work conference in December 2014, conceptualized the One-Belt-One Road (OBOR)[4] as China's platform for sustaining economic development and outbound investments. This was immediately followed-up, when China's National Development and Reform Commission (NDRC) in collaboration with the Ministry of Foreign Affairs and the Ministry of Commerce published the blue prints for the OBOR in March 2015[5].

The document highlighted five core areas of the OBOR initiative: policy coordination,

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1   Excerpts from the Chinese President Xi Jinping's speech delivered at the Nazarbayev University, Kazakhstan on 07 Sep, 2013, https://www.fmprc.gov.cn/mfa_eng/topics_665678/xjpfwzysiesgjtfhshzzfh_665686/t1076334.shtml

2   Ibid.

3   Blue China: Navigating the Maritime Silk Road to Europe, https://www.ecfr.eu/publications/summary/blue_china_navigating_the_maritime_silk_road_to_europe

4   Lauren A. Johnston, The Belt and Road Initiative: What is in it for China?, Asia and the Pacific Policy Studies published by John Wiley & Sons Australia, Ltd and Crawford School of Public Policy at The Australian National University, 3 Sep 2018.

5   One Belt, One Road (OBOR):China's regional integration initiative, European Parliament Brief, July 2016, http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/586608/EPRS_BRI(2016)586608_EN.pdf

infrastructure connectivity (land, maritime, energy & communication), trade facilitation, financial integration and people to people exchange. The declared five pillars of the new cooperation and connectivity plan closely resonates President's Xi's tenants proposed in Kazakhstan in 2013.

In 2016, China's Central Compilation and Translation Bureau and the Chinese Academy of Social Sciences replaced the original project name 'One-Belt-One-Road' with the 'Belt and Road Initiative (BRI)' a more pluralistic version. This was due to various misinterpretations and growing resentment by potential partners on China's ambitious programme with its emphasis on the numeric 'one'. By 2016, BRI had evolved into a comprehensive master plan beyond China's regional neighbourhood for reaching Europe, and Africa through six land corridors and two maritime choke points.

"China will endeavor to build a win-win business partnership with other countries participating in the Belt and Road Initiative, enhance trade and investment facilitation with them, and build a Belt and Road free trade network. These efforts are designed to promote growth both in our respective regions and globally

President Xi Jinping, 14 May, 2017[6]

14th May 2017 could be cited as the official launch of the Belt and Road Initiative (BRI) at the first Belt and Road Forum in Beijing. The event became the center piece of world attention as 29 state leaders and 110 countries were present at the event. President Xi in his key note address stressed that BRI was a road for peace, prosperity, opening-up to progress, innovation and for connecting different civilizations. Attention must be drawn to the use of 'BRI as a road for peace' which clearly was not mentioned in his 2013 address in Kazakhstan and in the published policy paper in 2015. Thus, this gives away that the BRI is more than a geo-economic tool and inherits China's ambitions of more assertiveness in the forming global order.

Figure 1: China's Belt and Road Initiative
Source: Geopolitical Intelligence Service (2017)

At present the BRI associates 84 countries increasing its membership from 65 countries in 2015. The BRI finances are supported through the Asian Infrastructure Investment Bank

6   President Xi's key note address at the inaugural Belt and Road Forum, Beijing, 14 May 2017, http://www.xinhuanet.com/english/2017-05/14/c_136282982.htm

(AIIB), Silk Road Fund and the New Development Bank. The BRI envisages USD 1 trillion for trade, investment and infrastructure development activities based on connectivity and cooperation. The BRI connects fifteen provinces in China with the rest of the world. In simple BRI works through aid, trade and investments with its partnering members. However, it is interesting in exploring into what led to China pursuing an ambitious master plan in the first place.

Why BRI?

The build up to the BRI could be traced to 2001 when China was accepted to the World Trade Organization (WTO). In 2002, CCP Secretary Jian Zemin, expressed that the first two decades of the 21st century would be a period of strategic opportunities for China. Over a decade China's economy was growing at exponential rates. China had now embraced multilateralism which was the culminating point of its gradual structural changes undertaken since opening up in 1978. With its economic development running full ahead China was being surrounded by social and security issues.

While China was growing at exponential rates elevating millions impoverished, the existing structural disparity of development had minimum or no effect on its western provinces. Xinjian, Yunnan, Gansu, Qinhai remains to be China's poorest provinces. The emerging transnational security threats including violent extremist fundamentalism was taking shape in its western provinces. China identified the need for further integration of the western and south western provinces in its economic development road map to address the emerging security issues.

In the aftermath of the 2008 financial crisis China called for new regional banks in assisting regional countries at gaining higher returns for reserves by incentivizing at investing on agricultural and infrastructure projects in Asia. This alternative was seen better-off instead of low yielding U.S debt. By 2013, Chinese reserves had amounted to USD 4 trillion with a return of mere 1% per annum. China was also triggered with the prospects of Renminbi (RMB) appreciating against the USD, which would have eventually resulted in negative returns. It needed to diversify its investment portfolios. At this moment Chinas outbound trade had exceeded its inbound trade and China understood the need for internationalization of the RMB[7].

Meanwhile, as China's demand for energy kept rising, it was imperative that access to these sources of energy be secured. China's key vulnerability remained on its energy import dependency. China alone accounts for 40% of the world energy demand, while its demand for electricity is expected to double from 2012 to 2040. Meanwhile, China is dependent on the Middle East for half of its oil imports, which comes through the choke point of Malacca strait and disputed South-China sea. In addition, 2012 marked an alarming rise of piracy incidents off Somalia drawing Chinese attention into the spectrum of transnational security concerns. Thus, China needed to be energy independent as it understood that its rise as a global power was received with a pinch of antagonism by the West led by the United States.

Thus, China identified security (energy; SLOCs & social), sustainability (continuity of its economic model of win-win) and survival of its Chinese values/ideology (three world

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7   In May 2018, 14 South and East African countries had discussed the use of RMB as their reserve currencies.

concept) as essential national interests in order to play a significant role in a multilateral world order. Hence, the BRI could be accounted as China's strategic response to its perceived vulnerabilities economically, socially and militarily.

Chinese Strategic Thought Schools Influence on the BRI

There exist two main arguments on BRI as a grand strategy. First whether BRI is technically a grand strategy in the normal sense, while the second questions whether BRI is even a strategy. The latter argument is based on the premise that the lack of a clear procedural framework or regulatory mechanism in the BRI. Thus, the claim is that the BRI is not a strategy but a tool of delivery of international public goods. Undoubtly, the BRI remains to be a master plan. Hence, the right question is not on the debate whether BRI is a grand strategy or not, but what is actually inspiring the BRIs momentum.

In this sense it is imperative looking into the significant thought schools that influenced Chinese contemporary international relations decision making. Evidences suggest that its historical three world concept, peaceful rise and new type of great power relations as predecessors to the BRI.

Present Chinese leadership thinking could be best interpreted through Han Feizi's power base thinking. Han Feizi's dictum, 'if one makes the law is strong, then the state is strong'. This is well reflected in Xi Jinping's 2018 address at the 40th commemoration of economic reforms in China. Han Fei further believes that, "if people attend to public duties and sell their produce to foreigners, then the state will become rich. If the state is rich, then the army will become strong. Subsequently, hegemony will be attained." In Han Fei's view hegemony is to be created through commerce and the military. In this sense, President Xi could be identified as a staunch disciple of this thought school.

Missing Building Blocks; Engaging India and Japan

Thus, the above assessment outlays that China's underlying ambition is recreating its three-world concept-based order, ensuring sustenance to its traditions and values while ensuring prosperity and growth harmoniously. Hence, the BRI could be defined as China's ultimate instrument in the connectivity of its autonomous and tributary regions with its heartland. This does not rule out China's possible ambitions of hegemony, as the principal of a new order. While, the BRI pales out any known development initiative in human civilization the initiative still misses two pieces in its grand plan: Indian and Japan. India and Japan remain to be disenchanted with this initiative while the latter has expressed more assertiveness for cooperation recently. Thus, the interplay between China and its Asian rivals should be viewed through the convergence and divergence of geo-economic and political interests and motives with the former's.

"Asia and the world will have a better future when India and China work to gether in trust and confidence, sensitive to each other's interests,"

Indian Prime Minister Narendra Modi[8], 1 June, 2018.

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8   Shangri-La Dialogue, Singapore, an event organised by the London-based International Institute for Strategic Studies, 2[nd]June 2018 https://www.scmp.com/news/china/diplomacy-defence/article/2148952/indias-prime-minister-modi-navigates-path-between-china

India's Motives and Interests

There was great hope in the air, if not from the Chinese perspective when the Wuhan summit between Prime Minister Modi and President Xi ended in a substantive positive note last year. Almost a year and with India's latest rejection to participate at the 2nd Belt and Road Forum, it seems that nothing had moved forward except grand gestures and tokens of appreciations.

Along with China, India too boasts of a millennia of culture and civilization and until 15th century remained to be an economic power house. As the 21st century is attributed to Asia's resurgence, India remains to be a major contender. India since the inception of BRI has viewed China's ambitions with skepticism. The roots of this negativism could be attributed to its border disputes with China in the Arunachal Pradesh, which eventually was bitterly fought out in 1962. India and China share around 3,488 km of land border from Kashmir to Arunachal Pradesh plus some 200 km in Sikkim.

Meanwhile, no love was lost in their traditional rivalry as Indian troops staged a standoff with Chinese counter parts when the latter attempted to construct a stretch of road in the contested border region of Doklam near Bhutan in 2017. Meanwhile, China has consistently reiterated that there would be no space for submission of land in the disputed regions. China's hardline narrative with regard to border issues could also be attributed towards India's explicit influence and sympathy towards an autonomous Tibet.

India's concerns over Chinese ambitions brews on another front in its immediate maritime space, the Indian Ocean Region (IOR). China sees it imperative in breaking the jinx of the 'Malacca Dilemma' and having an active presence in the India Ocean where over 50% of its oil traverse. China has not hidden its ambitions of modernizing its military in particular the Navy, which has risen reasonable concerns in New Delhi. India too aspires to be a major Naval power and rightly opposes any naval presence in its sphere of influence in the India Ocean.

Despite having a coastal stretch of over 7,500 km most of India's transshipments are done in Colombo, Dubai and Singapore. According to available data the Colombo port alone handles 48% of Indian transshipments[9]. In addition, Chinese involvement of the Colombo port expansion and Hambantota harbour in Sri Lanka is being seriously observed by India as an unwarranted intrusion into its neighbourhood. Meanwhile, the 2008 Mumbai terrorist attack exposed India's maritime vulnerability, when a hand full of Pakistan trained terrorists used a simple boat to infiltrate into Indian shores.

Despite the existence of divergent interests, India has not shied away from collaborating with China in areas of common concerns. China remains to be India's key trading partner with a market share of over USD 68 billion[10]. In this sense China is a vital conduit of India's economy. In addition, India continues to collaborate with China in the international stage on BRICS. Further, international collaboration could be seen on the grounds of common interests in ASEAN related activities.

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9   Modi Wants India to be a Trans-shipment Hub. But Can it Beat Sri Lanka and Singapore? https://thewire.in/economy/modi-wants-india-to-be-a-trans-shipment-hub-but-can-it-beat-sri-lanka-and-singapore

10 India's total imports amount to USD 292billion, in which imports from China amounts to 16% of total imports, https://atlas.media.mit.edu/en/profile/country/ind/

Further, both countries have common interests in Iran and Afghanistan due to strategic economic and security reasons and had discussed on mutual cooperation. Meanwhile, India and China accounts for Asia's largest infrastructure needs and this is going to increase in the future and both view each other as potential markets for future growth.

India's Response to the BRI

In India's perspective the BRI is more of a security and connectivity concern given the proximity of China and the latter's interests in Arunachal Pradesh, Doklam and Pakistan. Pakistan remains to be India's imminent security concern and the situation has become more worrying following the Pulawama attack this February.

India has expressed its abject resistance to China's BRI since its inception, especially over the China – Pakistan Economic Corridor (CPEC) under the pre-text of sovereignty issues on Kashmir. India's stance over CPEC is well clear. It does not see legitimacy of this project which to date remains to be the BRI's largest investment. In addition, India may foresee of China becoming a client state for Pakistan in the future. Meanwhile, India has own plans up its sleeve to rival the CPEC, with the International North-South Transport Corridor (INSTC) involving Iran, Russia and Central Asian countries in a strategic partnership.

India's response has been consistent on the BRI, as New Delhi persists denying Chinese invitations in the participation of the Belt and Road Forums. India has officially raised its concerns over BRI on four areas.

1. BRI lacks transparency.
2. Lack of connectivity through universal values of human rights, democracy and rule of law.
3. Concerns for India's territorial integrity and sovereignty.
4. China's reservations on India's oil exploration in the South-China Sea.

India in 2016 launched its own maritime initiative to counter Chinese influence in the IOR – the 'Sagaramala project'[11]. The project aims at developing domestic port infrastructure to meet demands. In 2016, India joined hands with Japan's proposal, the Africa-Asia Growth Corridor (AAGC) to counter balance Chinese rising influence in the Indian Ocean Region (IOR). As Africa needs over USD 100 billion of new infrastructure annually to remain competitive the AAGC is intended to rival Chinese infrastructure projects in Africa on the quality and feasibility of infrastructure projects.

Despite existing conflict of interests in many fronts and its staunch opposition to the BRI, on 11th January 2016 India joined the AIIB, as a founder member state. Though this has raised a many eye brows, the move could be attributed towards India's exemplary diplomacy in action. The move exemplifies India's measured approach in building relationships with China. Contrary to its opposition against the BRI, India has stated that the AIIB exhibits multilateralism, a pluralistic approach and build on the essentials of transparency and good governance. So far India is the largest beneficiary of the AIIB, recipient of 28%

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11   The Sagarmala Programme is the flagship programme of the Indian Ministry of Shipping to promote port-led development in the country by exploiting India's 7,500 km long coastline, 14,500 km of potentially navigable waterways and its strategic location on key international maritime trade routes, https://en.wikipedia.org/wiki/Sagar_Mala_project

of loans into 5 infrastructure development projects totaling USD 1.07billion in 2017[12]. India is the second largest shareholder (7%) of the AIIB followed by Russia and Germany. Meanwhile, India is awaiting the approval of additional USD 1.19 billion for 5 more infrastructure development projects.

India's measured approach towards BRI could be further identified when in 2018, India offered China connectivity through its North-East region to complement the Bangladesh-China-India-Myanmar (BCIM) economic corridor. Further, India is said to have extended an invitation for limited Chinese investments for the Bangladesh-Bhutan-India-Nepal (BBIN) mobility project under it's 'Look Neighbour Policy'. In addition, on the sidelines of the Wuhan summit, positive gestures were said to be exchanged between the two countries on connecting Afghanistan with Central Asia and China. But this remains to be a distant objective to realize, given the complexities associated in the region and relations.

Japan's Motives and Interests

Japan aspires to fill in the leadership role in Asia, in the possible distancing of United States from the region under the Trump administration. Japan has a dual approach towards the BRI. Japan's main opposition to the BRI is derived from its understanding at moderating excessive Chinese economic and political influence on aid receiving countries. Meanwhile, on the other front Japan seeks at improving bilateral relations with China primarily to deal with the possible threat from North Korea and sorting out the Senkaku-Diaoyu island disputes. Japan also sees the BRI as an issue of market competition with China.

Thus, in order to put Japanese perspectives in context it is essential to identifying the drivers behind its strategic behavior. Japan's interpretation of world order has two axes: economic and military. The latter in recent times has taken precedence in what could be ascribed to its perceived fear, to be resilient in the absence of United States. Hence, the military option is driven by the necessity in distancing itself from overly relying on U.S and by orientating itself to the use of force if and when necessary. In addition, the rise of China, Senkaku-Diaoyu island disputes, U.S – North Korea issue and the Taiwan crisis are key concerns that substantiate its security driven strategic posture.

Post WW Japan embraced the Yoshida Doctrine[13], which underscored minimum defence posture and reliance on United States for economic development and security. In the late 90's, Japan in response to the global uncertainties and in the backdrop of the 1997 Asian Financial Crisis aspired breaking from the 'Yoshida Doctrine' and dignify itself through a path of resilience. Since, then successive Japanese leadership had inched its strategic posture towards a middle power road, which encompasses 'human security'[14] at its core.

The human security narrative in 2006 furthered towards an 'arc of freedom and pros-

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12 How India became China-led development bank's main borrower, 19 Jan 2018, https://www.scmp.com/news/china/diplomacy-defence/article/2129686/how-india-became-china-led-development-banks-main

13 Christopher W. Hughes, Japan's Grand Strategic Shift- From the Yoshida Doctrine to an Abe Doctrine? Strategic Asia 2017–18, Power, Ideas, and Military Strategy in the Asia-Pacific, 15 Nov 2017,https://www.nbr.org/publication/japans-grand-strategic-shift-from-the-yoshida-doctrine-to-an-abe-doctrine/

14 A concept that focuses on strengthening of human centred efforts from the perspective of protecting lives, livelihoods and dignity of individual human beings and realize the abundant potential inherent in each individual.

perity' as a new pillar of order beyond the traditional U.S alliance[15]. Under Premier Shinzo Abe's leadership Japanese strategic thought trained towards the 'confluence of the two seas', Pacific and Indian Oceans. He foresaw the need for India and Japan cooperation in building and arc of freedom and prosperity across the rimlands.

Overall, the shift of Japanese strategic posture could be traced down to two prominent schools of thoughts that have become ambient during the period of Shinzo Abe's Premiership: Neo-autonomous (use of force, economic prosperity, strong relations in Asia while working to accommodate China) and Normal-nationalists (Premier Abe's 'proactive pacifism in national security strategy').

Japan's Response to the BRI

Japan's immediate response to BRI and China's rise could be the middle-power road strategy in which two propositions are distinctive: anti-BRI stance and 'con-gagement' (conflict plus engagement).

Its anti BRI stance is much evident with Japan's refusal to join the Asian Infrastructure Investment Bank (AIIB). Japan sees the BRI as a concern for market competition with China. And given China's cheap labour and low-cost manufacturing capacity the possibility of loosing comparative advantage is at the core of Japanese concerns.

In addition, Japan's opposition to the BRI is on the basis of availability of open access to infrastructure projects and the transparency mechanism of such development projects. Meanwhile, initiation of the 'Joint Regional Infrastructure Project' or the 'Quad' by the United States, Japan, Australia and India in 2017 could be viewed as a furtherance of its anti-BRI stance.

Interestingly, Japan took the lead in a 'balance of power strategy' through 'soft-balancing', cooperating and collaborating with India against the perceived principal threat of China. The strategy is intended and ideally suited to Japan which is economically at a comparative disadvantage to China. This proactive measure is intended at maximizing its interests while enhancing domestic capabilities for growth. The Africa-Asia Growth Corridor (AAGC) is an ideal example of 'soft-balancing strategy'. The AAGC could be viewed as a geo-political convergence initiative in balancing increasing Chinese influence in the IOR. While providing an alternative for infrastructure and development needs of the African continent the project emphasizes on the quality of infrastructure against the BRI.

Yet, recently there is an apparent change of the traditional Japanese response to the BRI, as Premier Abe on 24th June, 2017[16] indicated that Japan was ready to cooperate with China's BRI. In addition, he has also expressed Japan's possibility of joining the AIIB following clearance of doubts over the bank's governance and functional process. Further, in a speech delivered at the 23rd International Conference on the Future of Asia in June 2017, Premier Abe described that the BRI had potential to connect East and West and different regions. He also reiterated that if China incorporates principles of good governance and transparency in the BRI model, Japan would willingly cooperate with China[17]. Again in

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15   Japanese Foreign Minister, Taro Aso, 'Arc of Freedom and Prosperity', 2006.

16   Shinzo Abe , Pan Times Editorial, 24 June, 2017.

17   Asia's Dream: Linking the Pacific and Eurasia,' Speech by Prime Minister Shinzo Abe at the Banquet of the 23rd International Conference on The Future of Asia," Prime Minister of Japan and His Cabinet Website, June 5, 2017

2018, Japan moved forward to bridge cooperation with China in cooperation towards the Mekong River countries.

In conclusion, despite recent geo-political achievements for China on the BRI, the acute absence of India and Japan in the initiative remains to be its achilleas heels. This could be a persistent challenge in China's attempt to gain global acceptance setting precedence in a multilateral world order. Indeed, the Belt and Road Initiative has the potential of changing the global growth landscape through connectivity. In addition, the BRI potential of addressing the increasing demand for infrastructure development in the developing world must be appreciated and complemented. In a sense BRI could be attributed as China's strategic tool in exploiting the void of an international world order.

Despite, the promise of win-win outcomes, China must also ensure that BRI addresses its serious critiques on luring developing countries into a debt trap through excessive borrowings on economically unfeasible infrastructure projects. This leads to recipient countries being forced to swap equity to debt stirring sovereignty issues and remains to be a thorn in the BRIs credibility. India and Japan in response to rising China and the BRI have opted towards a soft-balancing strategy at protecting respective core interests against its principal threat. India's main opposition to the BRI could be stated as connectivity and security oriented that involves sovereignty and territorial integrity. Its main contention to the BRI brews around the controversial CPEC project. Japanese opposition to the BRI could be on the basis of infrastructure availability and open access including the transparency mechanism involved in the project development process.

Meanwhile, the two countries despite their convergence through soft balancing have recently demonstrated divergent approaches to the BRI. While, India continues to stand ground on it's resentment against the BRI, Japan has seen changing course towards a moderate path of engaging China. These different approaches do also have a twist as in contrary to above stances, India joined the AIIB as a founding member, while Japan refrained. Together, India-China-Japan claims the largest demand for infrastructure in Asia and rapprochement between the big-three would be key for connectivity and prosperity in the region and beyond.

CHALLENGES OF ATTRACTING AND STAFFING GENERATION 'Z' TO SRI LANKA NAVY: SPECIAL EMPHASIS ON VNF SAILOR RECRUITMENT

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"Technology is increasingly expanding the gaps among generations. As younger generations have more outlets for communication, they communicate faster and have more resources available, allowing them to make their own judgments on what they believe and what they do not. This ability to rapidly acquiring and interpret information cannot be seen from the older generation as they are less thoughtful."

Introduction

Staffing involves managing human resources. This includes determining the manpower requirement, and the methods of recruiting, selecting, training and developing people for various positions created in the organization. This is a continuous process and never ending exercise.

Staffing sailors in the Sri Lanka Navy has become a challenging process gradually, since the poor response from the qualified youths in Sri Lanka for a recruitment advertising campaign. Youths those who were born after 1997-2000 are ready to enter in to the workforce at present, especially enlistment age group to Sri Lanka Navy 18-22 is concerned. This generation belongs to generation 'Z' according to the generation categorization.

Generation has been categorized as Baby Boomers, Generation 'X', Generation 'Y' or Millennial and Generation 'Z'. Baby Boomers are the people who were born from 1945 to 1965. Generation 'X' is the people who were born from 1966 to 1976. Generation 'Y' is the people who were born from 1977 to 1994. Generation 'Z' is the people those who were born after 1995 and especially since 2000 which is also called I Generation (Wiliams, 2010).

 It is challenging to enlist youths from this new generation not only to Sri Lanka Navy, but also to other organizations in the corporate sector as when the flexible working environment is required. The most important characteristic of Gen 'Z' is, they are not interested to work longer periods in one particular organization when 12 years initial engagement to Regular Naval Force is concerned.

Aim

To enlist youths as recruits from Generation 'Z' to the technical branches of the Sri Lanka Volunteer Naval Force.

Characteristics of Generations

When considering the working environment of the Baby Boomers, they prefer long working hours and stick to one job and are not adaptive to the change. They respect the job and loyal to the organization they serve and always working for the betterment of the orga-

nization. Organization comes always first than their personal benefits, perks and privileges. Boomers tend to have a strong work ethic, good communication skills, and emotional maturity. They are strong team players, have insisted on being involved in decisions, and influencing the direction of their organizations. They are uncomfortable with conflict and reluctant to go against peers.

Generation 'X'ers are educated and prefer employment opportunities according to their qualifications. According to the qualifications, there is a tendency to change their working place but on limited occasions only. When they settle down, they work for the organization. 'X'ers prefers to work independently and is at their best when they are given a goal and not told how to accomplish it. Instead of remaining loyal to their company, they are committed to their work and people they work with. They are skeptical, risk-takers and want fun in the workplace. They also seek more work-life balance.

Generation 'Y' or Millennials also prefer to work according to their qualifications. They tend to change their workplace than Gen 'X'. They are familiar with technology than Gen 'X' and prefer to work with the technology. They are very much adaptive to the modern trend in technology. There is a tendency to change their positions for better future prospects. Millennials are able to take multitask and they prefer to work in teams, but may need supervision and structure. They need the flexibility of work where and when they want, so they can pursue their outside interests.

Generation 'Z' is significantly a different generation and was born in the world of digital technology. Therefore, the preferred working environment is also expected to be filled with state of the art technology with modern communication equipment. They are expected to be exceptional future employees due to their natural skills with technology and easy acceptance of new ideas.

Technology is increasingly expanding the gaps among generations. One of the main drivers of the technology divide is social media. As younger generations have more outlets for communication, they communicate faster and have more resources available, allowing them to make their own judgments on what they believe and what they do not. This ability of rapidly acquiring and interpret information cannot be seen from the older generation as they are less thoughtful.

Gen 'Y' on the other hand, see the older generation spending too much time trying to understand something or accomplish a task that they find relatively quick and simple. Yet interestingly enough, the behavior of every generation and the way they act is remarkably similar. The older generation is direct, but so is the younger generation. They're just using different tools and methods.

Working Preferences of Generation 'Z'

Generation 'Z' is stick to social media and modern communications Apps and living with the technology. Generation 'Z' is different from every other generation because they were born in the mid-1990s and subsequently shaped by the events of the millennium. We can't expect individuals of Generation 'Z' to be retained under one employer for more than two or three years. Period for the enlistment should be a short period. Most of the individuals in this generation is having the luxury of financial benefits for their education as well as entertainment expenses, since their parents from Gen 'Y' or 'X' are people those who

work hard and financially established and encourage their children to live their childhood without any financial burden.

Individuals in Gen 'Z' are well aware of this situation and they want to earn money in easy ways rather than working long hours. They watch their parents struggle financially and want to earn more money with less effort and seek opportunities to advance. Individuals in Gen 'Z' is preferred to discuss their job-related matters with parents than other generations, which indicates parents having an influence on Gen 'Z'.

Failure to understand Gen 'Z' and adapt to its method of communication will result in reduced efficiencies and potentially missed recruiting goals. At present, generation 'Y' is too old to be enlisted to the Navy. Time has begun start to focus on the characteristics of Generation 'Z'. While little has been done to research this new generation, it is important for the Navy to get ahead and understand their advertising audience in order to reach them effectively.

According to the Randstad's research, a majority of UK companies have already begun to recruit Gen 'Z' over the next couple of years as this group will be graduated from universities or begins working straight out of school.

According to the comments made by Debra S. Wada, assistant secretary of the US Army, Manpower and Reserve Affairs (2016), part of his responsibility was the long term sustainment of the "All-Volunteer" force that has relied on an "All-Volunteer" Army, individuals who raise their hands to serve in uniform. Since the new generation is not interested to join armed forces, he indicated that recruiting process in the military no longer have the luxury to continue recruiting the Army of tomorrow with the last generation's recruiting tactics and systems.

Staffing Gen 'Z' for Short and Flexible Bond Periods to Sri Lanka Navy

Before staffing, there are two steps to follow as job analysis and manpower planning. The Volunteer Naval Force (VNF) is the main supplementary arm of the Sri Lanka Navy (SLN) that provides required assistance in the form of expertise and the manpower in times of national urgency and distress. In order to absorb skilled personnel in the field of technical and other trades to the VNF, the special scheme was introduced in 2004 to the VNF. During the job analysis step, available vacancies in the branches of VNF can be analyzed and manpower planning can be done accordingly. Retirements, discharging and not consented percentage for re-engaging on completion five years, ten years and fifteen years of service periods also to be considered during manpower planning.

On completion of the pre staffing stages to get the right people to right job that is job analysis and man power planning, the staffing process starts. This staffing process includes; estimating manpower requirement, recruitment, selection, hiring and induction, training and development, remuneration, performance appraisal, promotion and retirement. According to the existing regulations of enlisting recruits, there are no provisions to enlist for a service period less than 12 years for regular naval force. It will take some times to change these existing regulations. Volunteer Naval Force enlistment regulations enable sailor enlistments for short periods for various branches indicated in the gazette notification no 625/20 in the year 1991. According to the available branches in the Volunteer Naval Force, advertisement campaign can be done to enlist individuals in the Gen 'Z' for a short period

such as 5 years.

Estimating of manpower requirement depends on the available branches and vacancies. Sailors of the VNF are able to perform duties attached to several branches in the Navy after the amendment made to the Navy Act in 1991 (Gazette 1991). VNF Seaman Branch is the oldest branch and other branches are as follows:

1. Engineering Mechanic (Work service)
2. Engineering Mechanic (Tradesman)
3. Engine Room Artificer
4. Ship Wright Artificer
5. Civil Engineering Artificer
6. Auto Motor Mechanic
7. Auto Armament Mechanic
8. Medical Assistant
9. Stores Assistant
10. Catering Assistant
11. Mess Assistant
12. Electrical Mechanic.
13. Radio Electronic Mechanic
14. Transport Assistant
15. Writer
16. Seaman
17. Seaman Diver
18. Communicator
19. Musician

When analyzing the present cadre, VNF sailor cadre is indicated lower than approved 5500 cadres where 1243 vacancies exist in the VNF. Volunteer Special Scheme (VSS) cadre is higher than approved cadre which comprised of sailors in technical branches. VNF sailor cadre as at November 2018 is as follows:

Table 1: VNF and VSS Approved Sailor Cadre as at November 2018

VNF Cadre	VNF Sailor cadre	VSS sailor cadre
Approved cadre	5500	2000
Present cadre	4257	6933

Source: VNF Headquarters Records

Following table 2 and table 3 shows the branch wise cadre of VNF and VSS:

Table 2 : Branch wise VNF Sailor Cadre as at November 2018

Branch	Male	Female
GENARAL	3202	255
DI		3
BAND	131	48
TA	172	
IT	13	4
WTR	15	24
INT	35	7
ME(CE)	24	
ME(ET)	34	
EM	5	
ET	2	
ME (SW)	4	
PTI		1
MEDI		
SPORT	68	77
VNR	82	
CUL	39	12
Total	3826	431
Full Total	4257	

Source: VNF Headquarters Records

Table 3 : Branch wise VSS Sailor Cadre as at November 2018

Branch	VSS Male	VSS Female
GENARAL	71	19
IT	26	33
ME (ET)	277	
EM	352	
TA	138	
REM	46	
ME (CE)	4728	
ME(HULL)SW	194	
ME (CE)CAR	52	
ME (CE) MASON	98	
ME (CE) STEEL	2	
ME (CE) PAINT	29	
FISH NET	22	

STENOGRAPHER		2
WTR	2	
MA	97	
CA	78	
BAND	6	2
STEWARD		432
SAND MINE	13	
SEWINNG CENTER	2	
INT	17	
AGRICULTURE	24	
WELDER	14	
ACCOUNT	2	3
TEACHER	2	17
DATA OP	4	2
MEDICAL	3	15
SIGNINIG WRITER	2	
MEDIA	2	
RECEPTION		1
SALOON	1	
AC (CEA)	3	7
SPORT	237	156
VNR	23	
CUL	49	15
Total	6659	274
Full Total	6933	

Source: VNF Headquarters Records

According to the cadre details in table 3, the highest number of VSS sailors has been enlisted as Engineering Mechanics in the Civil Engineering branch and utilized for various construction projects in the Navy as well as in the development projects of the Government.

Recruitment of Gen 'Z' is a little different from the recruitment of previous generations. According to the research findings of the study done by David Anderson et al. (2015) in the topic of Navy advertising; television advertising remains as highest responded in United State Navy recruiting advertising campaign when targeting Gen 'Z'. Further, it has found a parental influence on Generation 'Z', it may be beneficial to target advertising at the parents of Gen 'Z', in order to help influence them positively. The parental advertising could be done in newspapers, magazines, or books but the message needs to be clearly targeted at the parents to help them influence their child's decision to join the Navy. Television and online formats such as social media remain as the most popular media formats chosen by Gen 'Z' and there is a positive response for direct mail/email advertisement as well.

When considering the financial background, cultural bonds, use of technological appliances and educational state, characteristics and expectations of Gen 'Z' in Europe or United State will not be the same in Sri Lanka. Anyhow, similarities are common to all and observable.

When considering the willingness of most suitable applicants among the pool of responses, selection of an appropriate person to the VNF can be done. Hiring and induction is the process of appointing the selected candidate directly to the job or post and introduce to the team or workgroup. As an example, an experienced draftsman can be hired under the civil engineering artificer directly and introduce to the Civil Engineering branch accordingly.

Training and development (T&D) involved formal process of changing employee behavior and motivation to enhance job performance. T&D provides the knowledge, skills and attitude to generate new capabilities and abilities from the employee. Short training period related to the job they perform and short bond period such as five years would be attractive for Gen 'Z'.

Even though we discuss short bond period during the initial engagement, individuals can be motivated to continue their service until the retirement by describing the privileges of the job such as remuneration, performance appraisal system, advancement procedure, local and foreign further training opportunities and the retirement benefits as well. This would be the most suitable strategy to getting the attraction of qualified individuals in the new generation to the Navy. After five years period, they can be retained for a further period, or else they can be placed on Compulsory Unpaid Leave (CUL) and be kept as a reserve. The RUN rate of Artificers have been reported as 16 in 2016, 19 in 2017 and 25 in 2018 which indicates yearly increase and a loss for the Navy. These figures show the requirement of short bond periods.

Conclusion

Staffing determines the manpower requirement, and the methods of recruiting, selecting, training and developing people for various vacant positions created in the organization yearly by retirement and other reasons. Staffing sailors in the Sri Lanka Navy has become a challenging process since the poor response from the new generation which is called Gen 'Z'.

People those who were born after 1996 are considered as generation 'Z'. When considering the characteristics of this generation, they live with technology and prefer flexible working hours as well as a working environment. Further, this generation does not prefer to work attached to one organization for a longer period since they appreciate change.

Therefore, enlisting recruits from this generation to the Sri Lanka Navy for a longer initial engagement would be a real challenge. Volunteer Naval Force is the main arm of the SLN that provides the required manpower whenever the Regular Naval Force requires. Youths can be enlisted to the VNF for a five-year initial engagement and the new generation will attract for short bond periods that is comparatively attractive than the initial engagement to RNF which is 12 years.

It is concluded that, the best option to attract Generation 'Z' to Sri Lanka Navy is recruiting youths to technical branches in VNF and provide the required manpower to RNF

accordingly.

Recommendations

Recommendations to enlist youths to the VNF are as follows:

1. Attractive advertisement campaign mainly through TV/Radio, social media, (SMS such as news alerts) and direct mail is essential to attract qualified individuals in the Gen Z to enlist to the Sri Lanka Navy.

2. Emphasize the perks and privileges entitled for short bond period.

3. Emphasize the opportunities for their advancement and future benefits by re-engaging for five years until they are entitled for the government retirement plan. D. Make them aware of the ongoing welfare projects of the SLN.

4. Advertisement to be included the invaluable experience that candidates can gain by enlisting to the prestige Sri Lanka Navy.

5. Advertising campaign should include the ability to gain experience while having attractive remuneration and recognition.

6. Recommend to enlist recruits to the VNF until its approved cadre is met, while considering the evaporation of other branches in the RNF.

7. Recommend to refrain enlisting VSS except for sports pools.

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"DRAWN TO DEMOCIDE"; A DISCUSSION OF THE DOWNSIDES OF DRAINING DEMOCRACY OF ITS DIVERSITY

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"Democracy is eulogized as the form of governance that has stood the test of time for, after seventy plus years since Winston Churchill's famous utterance of democracy being the worst form of government save for all the other forms that have been tried from time to time, democracy stands as the form of governance that continues to be adopted, from amongst a plurality of forms, by sovereign States the world over at this juncture in history. Notwithstanding the proliferation of democracies, mankind is drawn sharply towards democide and that owing to a multiplicity of factors. Of such factors, the draining of diversity from democracies is preeminent and such drainage is predominantly attributable to the arbitrary exportation and/ or imposition of a Western brand of democracy."

Introduction

That man[1] is inherently a political animal[2] is a universal truth, engendering his ubiquitous need to exercise rule and rulership betwixt mankind. In light of such primitive realities, political systems of governance serve as the modus for the fruition of man's such need, to which the history of the world continues to bear witness. The tide of time of mankind's existence attests to the rise and demise of a myriad of structures of governance, vacillating between divine right centred rulership, tyrannical totalitarianism, etc., of which democracy is the ilk of governance that is insinuated to have stood the test of time. The core strain of democracy has survived and thrived through 1500 BC[3] to be hailed as the global political language, be it a system for the protection and promotion of justice or as a mechanism of blanket governance in puppet regimes. Yet, notwithstanding the tongue of democracy served athwart the globe, "the so-called global triumph of democracy may well turn out to be a campfire on ice"[4] for the challenges experienced by democratic political systems tend to imply an impending 'democide'[5].

Cruces of Democracy

Democracy, being quintessentially a construct of mankind[6],cannot be defined ex-

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1   Man/ mankind refers to men, women and children and is used gender neutrally throughout this paper. The Merriam Webster Definition stands in this context, "the human race", "the totality of human beings", Merriam Webster, 'Mankind' (*Merriam Webster*, 2019) <http://www.merriam-webster.com/dictionary/mankind> accessed 04 March 2019

2   "According to Aristotle, man is by nature a political animal. This means that he is destined by his nature to live as a socio-political being", Dimitris Papadis, 'Is Man by Nature a Political and Good Animal, According to Aristotle?' (2006) 7 (1) Phronimon

3   John Keane, *The Life and Death of Democracy* (Simon and Schuster 2009) xi

4   ibid xxxiii

5   Keane (n 3)

6   Keane acknowledges democracy as a construct of mankind in stating that, "the exceptional thing about the type of government of democracy is that it demanded people see that nothing which is human is carved in stone, that everything is built on the shifting sands of time", Keane (n 3) xii

haus tively and every endeavour to define it serves only to stab at the heart of democracy. A pure and ideal democracy relates to a "government of the humble, by the humble, for the humble"[7]. Yet, notwithstanding the reality that pure and ideal democracies are non-existent and/ or near alien, certain indispensable elements that constitute a democracy have endured. Of the enduring elements, the overarching element upon which the construct of democracy rests is the element of the populace, and it is around this nucleus that the other elements of democracy revolve. The sovereignty in a democracy lies in the sovereignty of the populace[8] wherein the notion that we the people[9] choose how to be governed in our best interest is where the sanctity of democracies lies. Throughout the evolution of democracy, from pre-Athenian ages, when white toga clad men sought to establish direct democracy, to the twenty-first century, where the broadly chosen flavour of representative democracy prevails globally, democracies persist as populace centred political systems.

The constituent elements, auxiliary to the populace, in a democratic political system includes equality amongst all men governed by such system, with respect to all facets of life, and the appurtenant rights and freedoms, wherein the rule of law is enshrined within such system so as to guarantee that justice is served equally amongst all citizens of the State; in the event that the rule of law[10] is violated by an individual or communal entity within the State. Transparency and political participation of the populace are elements of democracy that inextricably correspond with the other. In that, the political participation of the populace in the governance of the State could serve to ensure transparency of the means of governance adopted by the elected government and/ or their involvement in the furtherance of their welfare as citizens of a sovereign State.

A democratic political system further includes the focal element of universal franchise wherein all the citizens of a State are entitled to cast their votes in favor of representatives of choice thus empowering, and equally obligating, the duly elected representatives to establish positive law, such as through the Constitution of the State and/ or other legislative enactments, in view of the protection and promotion of justice. The conglomeration of such peripheral elements of democracy encompassing a nucleus comprising the populace is the modus operandi of a democratic political system.

Discussion: the Downsides

The prevalent alienation of ideal democracy is warrantable against the metaphysical truth of brevity and impermanence of all worldly constructs. The democracy, contempra-

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7   ibid

8   Christopher W Morris, 'The Very Idea of Popular Sovereignty: "We the People" Reconsidered' in Ellen Frankel Paul, Fred D Miller Jr. and Jeffrey Paul (eds), *Democracy: Volume 17, Part 1* (Cambridge University Press 2000)

9   The preamble to the Constitution of the United States of America bear the words 'we the people' as an expression propagating the notion that the sovereignty is in the people, "We the People of the United States, in Order to form a more perfect Union, establish Justice […]", The Constitution of the United States of America, Preamble

10   "[The rule of law] refers to a principle of governance in which all persons, institutions and entities, public and private, including the State itself, are accountable to laws that are publicly promulgated, equally enforced and independently adjudicated, and which are consistent with international human rights norms and standards. It requires, as well, measures to ensure adherence to the principles of supremacy of law, equality before the law, accountability to the law, fairness in the application of the law, separation of powers, participation in decision-making, legal certainty, avoidance of arbitrariness and procedural and legal transparency. United Nations, Security Council, The Rule of Law and Transitional Justice in Conflict and Post-Conflict Societies (Report of the Secretary General, S/2004/616, 2004) para 6

neous with the twenty-first century, could attribute its existent anatomy to globalization, insomuch that as Catharin Dalpino observes, democratization in the post-Cold War era was catalysed and made inevitable as a consequence of globalization[11].

Yet, notwithstanding the democratization triggered, globalization is widely acknowledged as the cat's paw in a global conspiracy of destabilizing the sovereignty to States, thus in turn threatening democratic political systems on a global scale. The democratic political systems of States ranging from Libya to Sri Lanka to Syria are relentlessly challenged by the proliferation of monitory democracy[12] and the arbitrary export of a Western brand of democracy[13].

That the United States "does what it does in the name of democracy"[14] is asserted by John Keane, wherein her vested interests in other sovereign States and need for untrammelled superiority is at the forefront of her campaign for global democracy. Such blanket democracy, insensitive to the realities peculiarly pertinent to each State, if blindly imported, would indubitably hamper the protection and promotion of the rights of citizens.

The Western brand of democracy, ambitiously exported by the United States, came to be denounced by China owing to the arbitrary imposition of inorganic values that engender political instability, socio-ethnic division and heightened corruption, thereby inevitably leading the State to a democracy trap.[15]

The blind importation of a Western brand of democracy by sovereign States that do not identify with the value structures inextricable of such brand of democracy is of equivalent detriment as is evident in aftermath of the Arab Spring, for as Alison Baily evinces the democratic aspirations that drove the Arab Spring foundered as the democratic transition of the States faltered ensuing a democracy trap steeped in conflict and instability in the wake of the power vacuum.[16] Vladimir Putin confirmed the Russian Federation's heightening fear of an irreversible global meltdown upon blind acceptance of such invasive brand of democracy, in that it would merely serve to augment the United States military empire and ambitions for its furtherance of the same at the cost of justice served by democratic political systems to their citizens.[17]

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11   Catharin E. Dalpino, 'Does Globalization Promote Democracy?: An Early Assessment' (*Brookings*, 1 September 2001) <https://www.brookings.edu/articles/does-globalization-promote-democracy-an-early-assessment/> accessed 15 April 2019

12   The term 'monitory democracy' coined and conceptualized by John Keane refers to a "new historical form of democracy, defined by the rapid growth of many different kinds of extra-parliamentary, power scrutinizing mechanisms", Kathryn Stoner-Weiss, 'Monitory Versus Managed Democracy: Does Civil Society Matter in Contemporary Russia' in Lars Trägårdh, Nina Witoszek and Bron Taylor (eds), *Civil Society in the Age of Monitory Democracy* (Berghahn Books 2013)

13   "[The brand of democracy] packaged and strategically delivered to almost all the state actors is the Western brand or model, which is orchestrated by the Western powers", Christopher Ike Uhere and Farouk Agha Uche, 'Globalization and Nigerian Brand of Democracy' (2017) 12 (1) Ndụñọde 165

14   Keane (n 3) xxxii

15   Megha Rajagopalan, 'China Party Journal Decries Western 'Democracy Trap'' (*Reuters*, 16 October 2013) <https://www.reuters.com/article/us-china-democracy/china-party-journal-decries-western-democracy-trap-idUSBRE-99F0I420131016> accessed 11 May 2019

16   Alison Bailey, 'The End of Spring? Democratic Transitions in the Arab World' (*British Council*, December 2017) <https://www.britishcouncil.org/research-policy-insight/insight-articles/end-spring-democratic> accessed 11 May 2019

The arbitrary exportation of a Western brand of democracy is evinced by Keane in quoting Richard Rorty's comment on the launch of the War on Terror[17], wherein Rorty elucidates that "there is much still to be achieved… but basically the West is on the right path. I don't believe it has much to learn from other cultures. We should aim to expand, to westernize the planet."[18] Rorty's conception of this Western brand of democracy was historically reflected through the imposition of economic sanctions on Cuba by, a 'champion of democracy', the United States in an attempt to cripple the Cuban populace in riposte to Cuba's rejection to the imposition of a Western brand of democracy, which was determined as not being in the best interest of the Cuban populace.[19] On the flipside, Keane acknowledges the notion "that democracy is a geographically specific and time-bound ideal"[20], thereby challenging Rorty's campaign for global westernization.

Democracies are founded upon the aforementioned elements, nonetheless the appearance a democratic political system is shaped by a diverse array of factors including culture. Consequently, values and principles like justice differ betwixt democratic political systems, owing to cultural diversity as elucidated through the doctrine of cultural relativism[21]. In such context, to exercise a uniform brand of justice, which is incongruous to the notion of justice naturally existent in a particular State would only serve to inhibit the protection and promotion of the principle of justice pertinent to such sovereign State.

The superimposition of this ethnocentrically fuelled Western brand of democracy is felt by a multitude of States, including Sri Lanka and evident in light of the call for justice against alleged perpetrators of war crimes during the last stages of the humanitarian conflict between the Sri Lankan armed forces and the separatist terrorist faction – the Liberation Tigers of Tamil Eelam. Those ambassadors arbitrarily propagating the establishment of hybrid tribunals[22] for the trial of such alleged perpetrators in Sri Lanka do so with the constructs of western democracy in hindsight.Eric Draitser reinforces the reality of the sprouting of faux democracies, resultant of the arbitrary exportation of a

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17 "In response to the terrorist attacks of September 11, 2001, the Bush administration advanced a War on Terror to justify security policies at home and military intervention abroad, exemplified by continuing conflicts in Iraq and Afghanistan." Seth C Lewis and Stephen D Reese, 'What is the War on Terror? Framing Through the Eyes of Journalists' (2009) 86 (1) J&MC Quarterly 85

18 John Keane, 'Humble Democracy? On the Need for New Thinking about an Aging Ideal' (John Keane, 25 February 2005) <http://www.johnkeane.net/wp-content/uploads/2005/02/whydemocracy.pdf> accessed 19 May 2019

19 *See* Amnesty International, *The US Embargo Against Cuba: Its Impact in Economic and Social Rights* (Amnesty International Publication 2009)

20 Keane (n 3) 842

21 *See* Elizabeth M Zechenter, 'In the Name of Culture: Cultural Relativism and the Abuse of the Individual' (1997) 53 (3) Journal of Anthropological Research

22 "The UN has found evidence "strongly indicating" that war crimes were committed in Sri Lanka in the closing phases of its civil war, and called for the establishment of a special "hybrid" international court to investigate individuals responsible for the worst atrocities." Jason Burke and Amantha Perera, 'UN Calls for Sri Lanka War Crimes Court to Investigate Atrocities' (The Guardian, 16 September 2015) <https://www.theguardian.com/world/2015/sep/16/un-seeks-special-court-to-investigate-sri-lanka-war-atrocities> accessed 11 May 2019

North Atlantic brand of democracy, with regard to the Yemeni puppet regime.[23] Measures of this nature undermine the efficacy of the democratic political systems of sovereign States, thereby consequently undermining the populaces of such sovereign States and their franchise. If democracy is to take root universally the arbitrary exportation of any particular brand of democracy must be eliminated, grounded on the principle of equality.

Choosing to empower representatives into government through one's right to franchise is a fundamental tenet of any democratic political system, thus impeding despotic ruler ship by the moneyed and the puissant. The incidence of choice engenders the prospect of electing an equal who would guarantee the furtherance of his electorate's and/ or communities best interests. That said, if a pragmatic picture of majority of democratic political systems is painted, it would evince that choice persists as a mere illusion[24]. This illusion of choice compels the citizen to choose between the lesser of the evils[25] though his vote, wherein the vote of the populace, for the lesser of the evils, is reached in prayer that such lesser evil would better represent their hopes, dreams and aspirations and better protect and promote their, individual and communal, rights and freedoms. Leonard Read asserts this view in stating that "it is morally tragic whenever a citizen's only choice is between two wrongdoers – that is, between two trimmers"[26,27].

The illusion of choice is a predominant reality amongst the preponderance of democratic political systems that comprise two chief political parties and is well-nigh rife amongst modern democracies. That the Western brand of democracy is unrepresentative if the will of the populace is owing to the illusion of choice is asserted by Ghassan Kadi who argues that "the real difference between the democracy that the West promotes and dictatorship that it fights is that the latter is under the rule of one person or party and the former is under the rule of one of two parties"[28]. This illusionary choice subsequently fosters further illusions amongst citizens on the protection and promotion of their sovereign right to justice,

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23 "The "transition" of power in Yemen, from Saleh to Hadi, is a prime example of the hypocrisy of US policy, touting it as a victory for democracy while concealing the obvious fact that it was the creation of a puppet regime. Abed Rabbo Mansour Hadi has been presented as the legitimate leader of Yemen, despite the fact that he was the U.S. choice to govern that country. His legitimacy depended on the myth of a democratically elected regime; the US propagates this myth wantonly, pretending that people won't remember that Hadi ran unopposed in February." Eric Draitser, 'Puppet Regimes and Fake Democracy: Syria, Yemen, and America's Quest for Imperial Dominance' (*Global Research*, 25 May 2012) <http://www.globalresearch.ca/puppet-regimes-and-fake-democracy-syria-yemen-and-america-s-quest-for-imperial-dominance/31046> accessed 19 May 2019

24 "Since capitalist democracy provides us with meaningless choices, it also provides us with the illusion of choice, and thus the illusion of freedom", 'Capitalist Democracy: The Illusion of Choice' (*libcom.org*, 15 August 2010) <https://libcom.org/library/capitalist-democracy-illusion-choice> accessed 20 May 2019

25 The 'evils' refer the electoral candidates between whom the populace has to choose when casting their vote at an election.

26 "A trimmer… is one who changes his opinions and policies to suit the occasion. In contemporary political life, he is any candidate whose position on issues depends solely on what he thinks will have most voter appeal. He ignores the dictates of his higher conscience, trims his personal idea of what is morally right, tailors his stand to the popular fancy. Integrity, the accurate reflection in word and deed of that which is thought to be morally right, is sacrificed to expediency." Leonard E Read, 'The Lesser of Two Evils' (*Foundation for Economic Education,* 01 February 1963) <https://fee.org/articles/the-lesser-of-two-evils/> accessed 19 May 2019

27 ibid

28 Ghassan Kadi, 'The Fallacy of Western-Style Democracy' (*The Saker*, 02 November 2015) <https://thesaker.is/the-fallacy-of-western-style-democracy/> accessed 07 April 2019

whereas the overriding truths pertinent to such democratic political system remain fundamentally disparate.

The illusion of choice and that between the lesser of the evils is exacerbated, as per Draitser in allusion to the existent puppet regime in Yemen, and Bill Van Auken in allusion to President Hamid Karzai's thirteen year puppet presidency[29], wherein faux democracies are erected and fortified by the arbitrary exportation of a western brand of democracy. Blanket democracies, typical to failed or rapidly failing States[30] are buttressed by domestic civic units that are economically waned and socially deprived, wherein the illusion of choice would not bear gravity for the sole focus of such civic units would be directed at acquiring basic securities, such as food, water and shelter. The severity of such blindness to the illusion of choice would surge in States where the wide spectrum of civic units remains educationally impaired and/ or politically ignorant. A concoction of these factors cripple a democratic political system's ability to protect and promote justice, resulting in the development of a vicious cycle, wherein deprived and ignorant citizens vote half-blindly only to elect representatives that will continue to drive the cycle of detriment.

Dealing with Democide

Redress to the surging alienation of ideal democracy is a bottom-up undertaking, where the need to bolster economic and social security within a State is of a paramount and equally critical bearing. Men who meet their economic and social needs, in the least, could maintain an unclouded resolve in the greater political determination of the State and their rights and freedoms. This stable course to determination would protect and promote justice within a democratic political system by ensuring that the populace would truly accord their franchise in favour a legitimately healthy choice[31] of representation. In that, An educated, aware and non-ignorant citizen chooses wisely, weighing out his options, thus disallowing the superimposition of any form of governance, of a brand domestic or alien, that would potentially impinge on the protection and promotion of justice. It is the populace of a State that is the all-powerful element in any democracy, for it holds the elixir that seals and heals the wounds of a democracy that bleeds; Sri Lanka included.

Equality being a key element in democracy seeks to institute equality amongst men in all realms of existence, ergo to enforce an alien flavour of democracy stands to undermine the sovereign franchise of an 'equal'. The propagation of equality among all men across continents, irrespective of the hemisphere in which States lie, is the sole means of

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29 "President Hamid Karzai, who headed a puppet government in Kabul for 13 years after being installed by Washington, refused to sign the deal… Karzai, who owed his position entirely to the US intervention, said, "This is not our war, it is a foreigners' war; it is based on their goals.", Bill Van Auken, 'New Afghan Puppet Regime Accepts Deal to Keep 10,000 US Troops' (*Global Research*, 30 September 2014) <http://www.globalresearch.ca/new-afghan-puppet-regime-accepts-deal-to-keep-10000-us-troops/5405258> accessed 19 May 2019

30 "Today's failed states, such as Afghanistan, Sierra Leone, and Somalia, are incapable of projecting power and asserting authority within their own borders, leaving their territories governmentally empty… The existence of these kinds of countries, and the instability that they harbor, not only threatens the lives and livelihoods of their own peoples but endangers world peace." Robert I Rotberg, 'Failed States in a World of Terror' (*Foreign Affairs*, August 2002) <https://www.foreignaffairs.com/articles/2002-07-01/failed-states-world-terror> accessed 21 May 2019

31 A healthier choice does not necessarily refer to an ideal state of affairs as would be in an ideal democracy but ensures a choice nevertheless, which is more advantageous to the populace, as opposed to having to choose between the lesser of multiple evils.

catalysing a sustainable global democracy. Effectuating equality in diversity rests on the understanding of man and his sensitivity to the differences, and consequent needs, of one another. Democratic political systems geared with men that operate with such understanding and sensitivity function both to repress civic units that challenge the protection and promotion of justice and suppress alien intervention earmarked to arbitrarily enforce an alien brand of democracy that is chiefly unpalatable and insensitive. Mankind must realize that for one to force values upon another serves to fundamentally undermine his own values; sovereign States must mirror this realization. Democratic political systems are bound by social contract to the citizens of the State in guaranteeing the protection and promotion of justice, whence if a brand of democracy, western or otherwise, is arbitrarily imposed, the State must exercise its sovereignty in measures to abrogate such imposition detrimental to the populous, on account of its obligation towards the citizens.

Conclusion

Democracy survives because it remains centric to, and sanctifies the sovereignty of, the populace, thus thriving on the cardinal virtue of humility[32]. Yet, notwithstanding the fact of it being a global tongue of governance, democracy will not prevail as the be all and end all of political systems of governance, for "like all other human inventions, democratic values and institutions are never set in stone; even the meaning of democracy changes through time"[33]. A global democracy that protects and promotes the principle of justice, wherein such protection and promotion of rights and freedoms effect that such principles trickle down into domestic democratic political systems, is the only means of furthering democracy. Winston Churchill testifies to the survival of democracy in declaring that "no one pretends that democracy is perfect or all-wise. Indeed it has been said that democracy is the worst form of Government except all those other forms that have been tried from time to time."[34] The prima facie lack of a robust alternative to democracy warrants non-imminent democide, ergo States must nurture this political system of governance as opposed to capitalizing on such reality, by draining it of its diversity, in prospect of the selfish furtherance of the geopolitical advancement of such State.

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32 Keane proclaims humility to be "the antidote to arrogant pride", Keane (n 3) 855

33 ibid xv

34 JK Baltzeran, 'Churchill on Democracy Revisited' (*Enter Stage Right*, 24 January 2005) <http://www.enterstageright.com/archive/articles/0105/0105churchilldem.htm> accessed 18 April 2019

THE ROLE OF COUNSELING PSYCHOLOGIST IN PREVENTION OF SUICIDES IN SRI LANKA

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"Suicide happens to be a very significant social issue in Sri Lanka. However, a Psychologist can understand the people who have abnormal personalities and the deviant behaviours which can lead to suicide. Hence, the psychologist who can play one of the most significant roles in preventing suicide and implement various treatment modalities to reduce the risk of suicide by addressing the underlying conditions causing suicidal ideation".

What is Suicide?

Suicide is the act of intentionally causing one's own death. Suicide is often committed out of despair, the cause of which can be attributed to a disorder such as depression, bipolar disorder, schizophrenia, alcoholism, or drug abuse. Stress factors such as financial difficulties or troubles with interpersonal relationships often play a significant role. There is an adage: "Suicide is a permanent solution to a temporary problem".

Annually, one million people kill themselves. World Health Organization statistics show that suicide is the thirteenth-leading cause of worldwide deaths and ranked Sri Lanka as having the 4th highest suicide rate from statistics gathered in 172 countries.

Different Approaches in Suicide.

Sigmund Freud.

Sigmund Freud's view regarding suicide is presented in a psychological perspective. Sigmund Freud's definition of suicide had three different aspects. One was a murder involving hatred or the wish to kill. The second one was a murder by the self often involving guilt or the wish to be killed. The last one is the wish to die (Comer, 2015, p.88). They thought of suicide being a murderous death wish that was turned back upon one's own self. Sigmund Freud also believed that we had two opposing basic instincts - life (eros) and death (thanatos) - and all instincts sought tension reduction. He also believed that suicide is more likely in advanced civilizations requiring greater repression of sexual and aggressive energy (Comer, 2015, p.90).

He initially described a class of drives known as the life instincts and believed that these drives were responsible for much of behavior. Eventually, he came to believe that these life instincts alone could not explain all human behavior. Freud determined that all instincts fall into one of two major classes: the life instincts or the death instincts. Among them, it is death instincts which play an important role in suicide.

Initially described in his book "*Beyond the Pleasure Principle (1920)*", Freud proposed that 'the goal of all life is death' (Comer, 2015, p.5). He noted that after people experience a traumatic event (such as war), they often re-enact the experience. He concluded that people hold an unconscious desire to die, but that this wish is largely tempered by the life

instincts. In Freud's view, self-destructive behavior is an expression of the energy created by the death instincts. When this energy is directed outward onto others, it is expressed as aggression and violence (Comer, 2015, p.95).

Emily Durkheim

Durkheim in his book Suicide (1897) explores the differing suicide rates among Protestants and Catholics, arguing that stronger social control among Catholics results in lower suicide rates. According to Durkheim, Catholic society has normal levels of integration while Protestant society has low levels.

Overall, Durkheim treated suicide as a social fact, explaining variations in its rate on a macro level, considering society-scale phenomena such as lack of connections between people (group attachment) and lack of regulations of behavior, rather than individuals' feelings and motivations (Durkheim, 1897, p. 78).

Also, he introduced the concept of anomie, a mismatch between personal or group standards and wider social standards. Durkheim wrote: "The individual yields to the slightest shock of circumstance because the state of society has made him a ready prey to suicide"(Durkheim, 1897, p. 80).

Durkheim divides suicide in to three categories.

1. Egoistic suicide.
2. Altruistic suicide.
3. Anomie suicide.

Causes of Suicide

1. Major psychiatric illness - in particular, mood disorders (e.g., depression, bipolar disorder, schizophrenia).
2. Substance abuse (primarily alcohol abuse).
3. Family history of suicide.
4. Long term difficulties with relationships with friends and family.
5. Significant losses in a person's life, such as the death of a loved one, loss of an im portant relationship, loss of employment or self-esteem.
6. Unbearable emotional or physical pain.
7. Socio-economic factors such as unemployment, poverty, homelessness, and dis crimination may trigger suicidal thoughts.
8. A history of childhood physical or sexual abuse or time spent in foster care is also a risk factor.
9. Hopelessness - the feeling that there is no prospect of improvement in one's situa tion is a strong indicator of suicide.
10. Drug addiction.

Suicide in Sri Lankan Context

Asia accounts for 60% of all suicides. Sri Lanka used to be near the top of the league

table but, according to Sri Lanka Sumithrayo, an organization set up to help prevent suicide in Sri Lanka, the rate has reduced from 47/100,000 of the population in 1995 to 20/100,000 in 2016. *(Hemantha, 2016, p.35).*

Suicide happens to be a very significant social issue in Sri Lanka. Thus it is the responsibility of all the people to find successful solutions to reduce suicides and should make the society aware of the value of human life.

1. The highest suicide rate is reported among young people who belong to 20-25 age groups.
2. In Sri Lanka, more than women, it is men who commit suicide.
3. Among the causes which lead to commit suicide, the breakdown of affairs takes the first place in Sri Lanka.
4. The economic burden is the reason for the elder generation to commit suicide.
5. During the War period, the people in war torn areas were tend to commit suicide more.
6. Divorces, Alcoholism, drug addiction are causes for increase the suicide rate in Sri Lanka.
7. The people who are in low income families tend to commit suicide.
8. The young girls who were raped by the relatives tend to commit suicide.

Strategies for Preventing Suicide Apart from the Role of Psychologist

1. Promote awareness that suicide is a public health problem that is preventable.
2. Develop broad-based support for suicide prevention.
3. Develop and implement strategies to reduce the stigma associated with being a consumer of mental health, substance abuse and suicide prevention services.
4. Develop and implement community-based suicide prevention programs.
5. Promote efforts to reduce access to lethal means and methods of self-harm.
6. Increase access to and community linkages with mental health and substance abuse services.
7. Improve reporting and portrayals of suicidal behavior, mental illness and sub stance abuse in the entertainment and news media.
8. Promote and support research on suicide and suicide prevention.
9. Improve and expand surveillance systems.

When considering the above facts it is clear that in preventing suicides, family, schools, government, and the whole society should play an important role.

The Important Role Played by the Counseling Psychologist in Preventing Suicide.

However, according to my point of view it is the psychologist who can play one of the most significant roles in preventing suicide as most of the causes which I have mentioned earlier. Hence the counselors or the clinical Psychologists can play a huge role in preventing suicide in any community.

1. Develop and promote effective clinical and professional practices
2. Implement training for recognition of at-risk behavior and delivery of effective treatment.

The Relationship between Mental Illnesses and Suicide

According to traditional categorization, mental illnesses can be divided into two (Carson, Butcher and Mineka, 2011, p. 67).

1. Neurosis.
2. Psychosis.

Among neurosis diseases, Anxiety also leads to suicide. The psychological conflicts which happen in frustration will cause for anxiety. Loss of job, breakdown of love affairs, etc. may cause for anxiety. In such occasions people tend to imagine problems.

Another neurosis disease is Hysteria which also has a relationship with the suicide. If a person who has hysteria and finally if she/he becomes so frustrated, there is a tendency for such a person to commit suicide (Boeree, 2002, p. 14).

Phobia may also cause for suicide. This is also another mental illness which comes under neurosis.

Psychosis diseases can be divided in to two sections as:

1. Organic Psychosis
2. Functional Psychosis

Anxiety belongs to Manic Depressive Psychosis whereas the people who have reactive depressive belong to neurosis disorders (Boeree, 2002, p. 20).

When considering the above facts it is clear that, a psychologist has a great role to play identifying the various mental illness which can be lead to suicide.

Personality Disorders and Suicide

We can find two personalities in human, considering their behavior on finding a solution to their problems (Butcher, Hooley and Mineka, 2014, p. 115).

1. Normal personality
2. Abnormal personality

The person who has a normal personality does not perform deviant behaviours. But a person who has an abnormal personality tries to find solutions for his/her frustration through deviant behavior like suicide. However abnormal personality can be divided into two sections.

1. Deviant personality
2. Psycho pathetic personality

The following signs can be seen in a person who has an abnormal personality.

1. Follow deviant methods in finding a solution for a problem.
2. Aggressive mental condition.

3. Not respect norms and values.

4. Become frustrated even in a small problem.

5. Suicide, Try to commit suicide or treat to suicide.

It is obvious that a normal person cannot easily recognize the personality disorders and people who have abnormal personalities. A Psychologist can understand the people who have abnormal personalities and the deviant behaviours of them which can lead to suicide. Thus it is the Psychologist who can recognize the causes of suicide in people who have abnormal personalities and then they can find solutions to prevent suicides.

Treatment for Suicide which can be done by a Psychologist

There are various treatment modalities to reduce the risk of suicide by addressing the underlying conditions causing suicidal ideation, including, depending on case history, medical pharmacological and psychotherapeutic talk therapies (Shneidman, 1998, p. 33).

The conservative estimate is that 10% of individuals with psychiatric disorders may have an undiagnosed medical condition causing their symptoms, upwards of 50% may have an undiagnosed medical condition which if not causing is exacerbating their psychiatric symptoms. Illegal drugs and prescribed medications may also produce psychiatric symptoms. Effective diagnosis and if necessary medical testing which may include neuroimaging to diagnose and treat any such medical conditions or medication side effects may reduce the risk of suicidal ideation as a result of psychiatric symptoms, most often including depression, which are present in up to 90-95% of cases (Roy, 2011, p. 48).

There are multiple evidence-based psychotherapeutic talk therapies available to reduce suicidal ideation such as dialectical behaviour therapy (DBT) for which multiple studies have reported varying degrees of clinical effectiveness in reducing suicide (Corey, 2003, p. 56). Benefits include a reduction in self-harm behaviours and suicidal ideations. Cognitive Behavior Therapy for Suicide Prevention (CBT-SP) is a form of DBT adapted for adolescents at high risk for repeated suicide attempts.

Services of Naval Counseling Psychologists in Preventing Suicide

Naval psychological counselors together with Sri Lanka Navy perform a great roll in order to facilitate all the naval members with a better mental condition. Most of the naval personalities are having unpleasant memories of the civil war of Sri Lanka. Naval Counseling Psychologists always try to make a better and balanced mental condition of all the officers and sailors with the problems they have to face personally as well as professionally by using various psychological treatments and counseling methods.

It is very important to have a balanced mental condition in military personalities as the people who have a great responsibility for the security of the country. Hence the naval personalities have to undergo some critical conditions and situations with the professional responsibilities which can be a serious issue for their personal lives. As some examples, lack of free time to be with family members, working in much far distance places from the living area, have to face risky situations, missing participating for special occasions of the family members so on. Sri Lanka Navy counseling unit performs in a broad manner to support all the naval members including their family members to build up a strong personality to face all these situations successfully without going for wrong decisions and actions.

The vision of our unit is to build up strong naval characters in mentally and physically who can perform well in their duties in order to give the fullest contribution to the development of the country and the nation. All the steps are taken by the Sri Lanka Navy Psychological counselors such as counseling sessions, treatment methods and implementing awareness programs in each and every command islandwide to achieve this vision with a broad idea of building up the mentally healthy nation.

Conclusion

When we consider above mentioned factors it is very clear that suicide is very badly affecting for the person, family and community. In present society we have preventable ways through the counseling. Hence, naval professional counseling psychologists play a vital role to prevent suicide in Sri Lanka.

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ADMIRAL CLANCY FERNANDO
ESSAY COMPETITION 2018

1ST PLACE OF EACH CATEGORY

INTEGRATING AERIAL SURVEILLANCE IN TO THE MARITIME ENFORCEMENT STRATEGY IS A LONG FELT NEED

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"Security is not Military Hardware, though it may include it;
"Security is not Military Force, though it may encompass it;
"Security is Development and without development there is no Security"

Robert Mcnamara- US Secretary of Defence , 21 Jan 61 – 29 Feb 68

Introduction

The Maritime Strategy and the Military Strategy is derived from the Grand Strategy of the country which is formulated according to the national policy. Thus, the policies and the strategies of Sri Lanka Navy becomes a part of military and maritime strategy of the country. While defining the policies and the means of reaching it by strategies, it is very important to define them through analyzing the threat perception of present and future. The requirement of force and force structure planning according to the perceived threat will enable to implement the strategies, thus reaching the end result. While assessing the capacity and capabilities of force and force structure of Sri Lanka Navy it is required to analyze whether it suits for the perceived threat. The force and force structure include men and material, and it is very important to analyze how well the Sri Lanka Navy is structured her force to implement the strategies to meet the end results. In this context there can be many questions such as, have we clearly identified the threats by correct appreciation? Have we planned the force and force structure according to the strategies? Do we have required capabilities such as asserts for Maritime Domain Awareness (MDA) including aerial surveillance for the maritime enforcement? Do we use the state of the art technology for maritime surveillance? What is the military effectiveness in order to support the Grand Strategy of the country? How it has planned the defence expenditure in Navy w.r.t the 'Economy of Defence'?

It has taken three decade for Sri Lanka to eradicate the world ruthless terrorism and bring peace to the country in year 2009. The analysis revealed the development of these activities at the beginning in minor scale at sea and escalation into a most dangerous terrorism and linking to many international terrorist organizations. It would like to emphasize that lack of information and awareness in the maritime domain may have allowed the terrorist to develop into dangerous terrorist force at sea not limiting to Sri Lanka but to the region in general. This is a classic example for all other states, where it has to address and mitigate such development at the subversive stage. Sri Lanka Navy did not have advance technology such as satellite technology, aerial surveillance, modern Electronic Support Measurement etc. at the beginning of the LTTE Sea Tigers. However, MDA capabilities were built by improvised and ad-hoc methodology and also with the help of some external

parties to have a certain extent of maritime surveillance. These data were collated together with the information received from human intelligent sources and credible analysis was done to find the critical intelligence about the Sea Tiger activities. Why it is so important to look critically in to the history is that, the threat has been started minor scale at lower level and escalated up to a level of becoming dangerous to the whole maritime nations and sea fearers.

Significance of Aerial Surveillance for Maritime Enforcement

Securing the Sea Lines of Communication (SLOC) from various threats possess a challenge, as non-traditional threats such as piracy, terrorism, drug trafficking, human trafficking, maritime pollution, IUU fishing etc. continue to develop the tension in the Indian Ocean including sea area belongs to Sri Lanka. The significant maritime traffic generates a very sensitive risk of pollution, and their consequences for the environment and the aquatic resources, could be disastrous for echo system and the tourism. Approximately 0.5% of a supertanker's cargo of crude oil settles during its delivery voyage and has to be washed out and this is often done during the passage. The form of pollutants discharged into the ocean by ships adversely affects the fish stock and has the habitability of the coast, thus could result in significant damage to ecosystems and the maritime resources. The potential economic impact of these factors on both fishing and the tourism industry has become an area of grave concern.

The Indian Ocean is becoming a "nuclear ocean" given the increasing number of regional nuclear weapons on land, as well as the indeterminate number on and under the ocean at any one time, plus the likely increasing importance of the regional uranium trade in the future. It is required for nations to develop nuclear power for peaceful means, yet discharge of waste should be given much consideration as it pollute the marine environment. These radioactive pollutions are mostly unknown and information is hidden.

The IUU fishing contributes to overexploitation of fish stocks and is a hindrance to the recovery of fish populations and ecosystems and this problem represents a major loss of revenue. The methods using for fishing such as bottom trawling, and high technology in locating fish shoals are also causing to exploit this resources beyond sustainability. The unfortunate result may be driving the poorer fishermen to bankruptcy and thereafter to become pirates, armed robbers or illegal actors.

When it consider the apprehensions done w.r.t illegal activities taken in Sri Lankan water, it is estimated to be only around 20 to 30 percent. Then, what is happening to the rest of the percentage? At present most of the apprehensions on illegal activities at sea are done with the use of human intelligence (HUMINT). Maritime intelligence division gather information through their human intelligence sources and operations are planned accordingly. Mostly the incidents are taken place in the northern water of Sri Lanka and it is utmost important to establish aerial surveillance to incorporate with the HUMIT and strengthen the maritime surveillance. This will enhance the capabilities and not only detection; it will facilitate identification and target classification as well. Therefore, the advantage is that, without the reach of Naval Ships and Craft, early information could be obtained through the sensors deployed with the aerial platforms.

It is important to discuss on the methodology and systems in place by Sri Lanka Navy

to mitigate the non-traditional threats. At present Sri Lanka Navy maritime surveillance is being carried out with the concept of coastal surveillance and deep sea surveillance. The surveillance at deep sea up to Extended Exclusive Economic Zone (E-EEZ) of Sri Lanka is done by the Offshore Patrol Vessels (OPV). The coastal surveillance is done by small craft and the surveillance sensor network of Radars and Automatic Identification System (AIS) installed along the coast as Coastal Observation Points (COPs) around the Island. During the time of LTTE terrorism, there were Electro Optical Surveillance System(EOSS) consist of Thermal and Day cameras installed along with the coastal radars. However, due to aging and obsolescence, these EOSS are no more in use. In the present day context while considering the illegal activities such as drug trafficking, human smuggling, IUU fishing, and transferring contrabands in and out from the country, existing means will not be adequate to carry out effective surveillance. Therefore, it demands the new methods to re-strengthen the maritime surveillance system with state of the art technology.

The effectiveness of the existing coastal radars is in question as the intruders use the loop holesor the gaps of the system. Current 'X' band Navigational Radars has low performance in harsh weather environment and simultaneous detection of near and long range targets cannot be achieved as these are not meant for such purpose. Further, detection of small semi submerged targets cannot be done by navigational radar. Also, due to the use of cut off thresh hold to discriminate real target and clutter it will hinder the detection of small targets.

When it consider the capabilities of existing surveillance sensors target identification and classification is the main issue. Detection up to a certain level is done with the use of AIS and Radars with limited coverage, but without reaching the naval ships to the location it will not be possible to identify the targets. Further, considering the speed of ships and craft in comparison to the aerial platforms it is very slow and suspicious targets may evade or complete their activities by the time naval ships reach the locations. Therefore, aerial platforms are very much essential to overcome these limitations in the maritime surveillance. The use of satellite imagery for target detection, identification and classification also has certain limitations such as non availability of real time imagery. Also the cost of satellite imagery is very high. Therefore, the surveillance capabilities of aerial platforms cannot be matched by the space technology.

Apart from the surveillance information obtained by the Sri Lanka navy, there is information available from the Department of Fisheries through the Vessel Monitoring System (VMS). The ships information through Long Range Identification and Tracking (LRIT) system available with Director General Merchant Shipping also could be obtained to Navy and all these information need to be collated together to produce an intelligence. The information from these sources need to be verified by the target identification and classification through aerial means where it will provide the image of the target. Once this information is available at one location such as Navy headquarters it needs to be fused together for producing intelligence. Therefore, Maritime Enforcement can be enhanced by establishing aerial surveillance together with Information Fusion Center for fusing and producing intelligence.

The maritime enforcement of Sri Lanka is done by the Sri Lanka Navy and Coast Guard. The law enforcement has been entrusted to the SL Coast Guard by an act of the

SL Government[1]. However, due to the lack of capacity and capability, Sri Lanka Navy supports SLCG to perform their assigned task by providing resources. While considering the activities taken place in the northern water of Sri Lanka which shares the maritime boarder with India, use of force and weapon for controlling these activities are having restrictions in accordance with the international law. Therefore, new method with the use of modern technology and non-lethal weapons can be a solution. Considering the unique vulnerabilities, the use of new technology with advance intelligent capabilities will give much expected results with cost benefit advantage. The analysis on the effectiveness of the existing system and the cost for infrastructure maintenance and human resources demands for a better surveillance system for Sri Lanka Navy.

Sri Lanka Navy OPVs are built with platforms for the operation of helicopters from the deck and also to carry a one onboard for maritime aerial surveillance. In early year 2000, Sri Lanka Navy planned to have helicopter operation onboard and even Engineers were trained in India to form a Naval Air Arm. However, due to certain reasons this has been abundant, specially due to the discourage and resistant posed by the Sri Lanka Air Force. It is very much required by the Sri Lanka Navy to project the requirement to the Ministry of Defence with facts and figures to justify the advantage of having an aerial surveillance for maritime enforcement.

At present Aerial Surveillance capabilities in Sri Lanka are only possess with Sri Lanka Air Force which is done for limited land operations and beach reconnaissance. Therefore, it is also required to study how best it can use the collaborative approach to establish aerial surveillance in maritime domain with the help of SLAF. It requires analysis on the capacity and limitations of the existing platforms in terms of quantity, endurance, sensor capabilities and limitations, operational environmental restrictions and deployment limitations. During the period of terrorism in Sri Lanka, some of the joint operations were carried out by SL Navy and SLAF for air reconnaissance and surveillance with the use of Beach Craft, Helicopters and Unmanned Aerial Vehicles (UAVs). However, today it has limited only to carry out few of the beach surveillance where the visual observations are done by the observer provided by the SL Navy. When consider the capability of SLAF, it will require certain development in order to operate in the maritime environment. However, it needs broader perspective of concept of operation, where it needs to avoid traditional approach and inter-organization ego. It need mutual respect for each other and develop together for co-existence.

In the developed Navies and Coast Guards aerial surveillance is done with the use of modern asserts and advance technology. Apart from the helicopters, Maritime Patrol Aircraft (MPA) which has capability of reaching far distance from the land is available in the developed Navies. The P-3 Orion land-based maritime patrol and anti-submarine warfare aircraft built by M/s Lockheed Martin is a classic example for such MPA[2]. These Air Craft are used for maritime surveillance such as detection of oil spill pollution, oil and gas infrastructure protections, fishery inspection, SAR operations, and Disaster Management. These Air Craft possess with sensors such as Electro Optical and Infra-red cameras, Side-looking airborne radar, search radar, AIS transponder, Direction Finder, hyperspectral scanners, mi-

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1   02ⁿᵈsep 2018 http://www.coastguard.gov.lk/assets/pdf/act/cg_act_english.pdf

2   02ⁿᵈ Oct 2018, *https://www.naval-technology.com/projects/p3-orion/*

crowave radio meters and communication equipment with data links. Therefore, it could-carry out surveillance in many aspects and provide important information for the protection of all kinds of threats at sea. Thus, it is important to know the capabilities of these platforms in order to analyze and decide what aspects to be looked into when considering unique requirement.

In the modern concept, use of UAV is a smart machine use for aerial reconnaissance. This reduces the huge cost involvement for the surveillance operations and also increases the flexibility of operations. These UAVs can be operated from the shore as well as from the ships. The launching and recovery of the UAVs depend on the product and there are vertical takeoff and landing type, catapult launch and recover from parachute, and ship launch and landing at sea etc. There can be certain limitations of operations and capabilities such as endurance, pay load, and withstand for harsh conditions etc, but due to its other advantages, it is more prominent in certain applications. The Companies such as Schiebel, Zhuhai ZIYANUAV Co. Ltd, Collaris USA, Airbus France, AeroVironment Inc are some of the companies support for UAVs for aerial surveillance. The pay load of these platforms are very small in comparison to the MPA, thus it need to identify and decide what type of platforms to be used as per the requirement. For a country like Sri Lanka it is important to identify such methodology in order to implement a practicable solution in maritime aerial surveillance. At the beginning it is important to have a conceptual transformation in order to instil the positive approach and subsequently establish a systematic way of developing and gradually reaching the desired level for Aerial Surveillance.

Another method use by some countries is the Aerostat for coastal surveillance. These balloons are fixed in the land or coastal locations and sensors such as Radars, EOSS with day and thermal cameras, AIS etc. can be located for surveillance. The communication data links will have the real time connectivity for Command and Control. Sri Lanka being an Island, this is very cost effective method for coastal surveillance. However, these aerostats have the certain limitations such as height limitations, coverage from the fixed location, periodical replacement of the balloon material, and restriction from the Civil Aviation Authority for placing them above certain areas and certain height. It need in-depth analysis to use this type of method and it is also important to note that the combination of different methods could be designed as per the requirement.

Conclusion

The effectiveness of any organization depends on the performance and outcome, and how best it achieves the desired results. Sri Lanka being an Island and a developing nation, Navy has a huge responsibility for supporting in achieving the national objectives through maritime strategy. The tactical and operational aspects are very important in implementation by aligning with the formulated maritime strategy. It has been discussed, analyzed and highlighted the effectiveness of maritime surveillance and the gaps to be filled. The importance of aerial surveillance in maritime enforcement has been a long felt requirement and it is required to fill this gap with the use of appropriate mechanism with the balance and progressive development. Therefore, a gradual process is needed to be implemented for establishing aerial surveillance in order to have maritime enforcement with modern technology. It should have laid down policies and clear road map to establish aerial surveillance as a powerful means of gathering vital information in order to strengthen the maritime

enforcement. There can be many resistances from external and internal environment, yet it is required dedicated journey in achieving the set objectives thus reaching the aim. In the history many kind of concepts and systems has been established in the Navy, but over a period of time it has been decayed and diminished. Main reason is not having clear vision on the future and poor planning for management and development of the established systems. Therefore, it is required to learn lessons from the history and make the future planning to be a successful one.

Being an Island nation, Sri Lanka must be capable of carrying out maritime enforcement by its own without dependent on external parties. However, there will be requirement for cooperative and collaborative approach with other nations in order to fill the gaps and strengthen the maritime enforcement. In this context it is very important to maintain the sovereignty of the country, especially to safeguard the 'Strategic Autonomy'. When it carefully analyse how the powerful nations influence the developing countries and eliminate the strategic autonomy of that country, it is paramount important to identify such field and acts in order to prevent them. Apart from the economic aspects, defence is a key sector in any country must maintain their strategic autonomy. For no reason a country must give away this strategic and vital sector to be influenced by other nations or external parties.

Achieving sustainable development as stated in the national policy is in question if it cannot prevent illegal activities at sea. Therefore, Sri Lanka Navy need to enhance the maritime surveillance and enforcement with advance technology and new way of approach. In order to establish aerial surveillance, it requires necessary infrastructure, professionally competent staff, training for operation and maintenance. It may require huge cost at the beginning to establish and operate such system. Therefore, it requires identification of mechanism to gradually set up such system by considering various aspects such as life cycle cost and return on investment (ROI). In modern day context use of UAV for aerial surveillance is becoming highlighted due to low cost and quick operations. Therefore, at the beginning it is suggested to start with miniature platforms such as UAVs to be operated from the Naval Ships as well as land based. This will instill the conceptual operation of a naval air arm which will drive the navy to expand the aerial surveillance with helicopters and many other improvements in the future.

When it consider the 'Economics of Defence' w.r.t the defence expenditure there would essentially pose three questions; what is the total quantum of national resources available? What proportion of these resources has been allocated for Defence? How efficiently the resources allocated for defence are utilized? While considering the military effectiveness, the establishment of maritime surveillance system with aerial platforms will ensure the mitigation of illegal activities at sea, thus it will support to establish sustainable socio economic development in the country. Further, it is paramount important to secure the 'Strategic Autonomy' of our country, specially in the defence sector by introducing state of the art technology. In this context Sri Lanka Navy's responsibility is to secure the sea from all type of threats for the national development. It should not allow the intervention of other countries or external parties to have been supported in terms of their own advantage.

As discussed, Sri Lanka Navy's Maritime enforcement strategy design to ensure the effectiveness of Sri Lanka Navy towards achieving Sri Lanka's military strategy, thus reaching the end results as per grand strategy of the country. The gaps of existing maritime

enforcement strategy were discussed and the requirement of integrating aerial surveillance for enhancing the capabilities was highlighted. However, it need careful and systematic approach in implementation by considering various factors discussed in this paper. As a developing country spending of each Rupee has to be done by considering the Economics of Defence and to achieve the sustainable development of the country as defined in the national policy and grand strategy.

ARE WE READY TO FACE NEXT NATURAL CATASTROPHE? COMPETENCY OF SRI LANKA NAVY TO RESPOND NATURAL DISASTERS

Lieutenant Commander (G) Duminda Dayananda, RSP, BNS, Dip in HR

Executive Officer & A/Training Commander - Rapid Action Boat Unit

"We cannot stop natural disasters but we can arm ourselves with knowledge: so many lives wouldn't have to be lost if there was enough disaster preparedness".

- Petra Nemcova

Introduction

There are various definitions for understanding what a disaster is. Here, the writer finds,a Disaster means, the actual or imminent occurrence of a natural or man-made event, which endangers or threatens to endanger the safety or health of any person or group of persons in a particular country, or which destroys or damages or threatens to destroy or damage any property'. (Lanka 2005)

Sri Lanka has historical evidence of managing disaster risk. This proven history of Disaster Risk Reduction (DRR) goes back to the tank and village system which was based on an ecosystem management approach and supported the country's agrarian civilization for many centuries. These systems were disrupted during the colonial period and the equilibrium of natural systems and human life along with the resilience capacity of the communities gradually eroded. With modern challenges such as population increase, resource constraints, conflicts and development related modifications to land use and landscape conditions, the potential for disaster has increased; more so with the impact of such human induced disaster element. Sri Lanka is vulnerable to disasters due to high population density and economic activities which are mainly concentrated in flood prone and coastal areas. The disasters which threaten the country are mostly weather and water related such as flooding, landslides, lightning, and drought.

Disaster Mangment

An insight to the Disaster Management mechanism in Sri Lanka can be obtained from the interpretation given for the 'Disaster Counter Measures' in the Sri Lanka Disaster Management Act, 2005. It says, 'measures that are necessary or desirable to avert, minimize or counter the effect of an impending disaster or consequent to a disaster, to mitigate the effect of such disaster on members of the public or any property belonging to an individual or the State, and includes the conduct of, or participation in training for such purposes'. Studying and understanding the Disaster Management (DM) Cycle is the initial step for someone interested in the field.

Figure 1 : Disaster Management Cycle
Source: ESA-GSE-Respond (2008)

Above Disaster Management transpires three main parts of Disaster Management (DM) and various phases of actions to be taken under each part as follows.

Pre-Disaster

1. Prevention   - Actions initiated to prevent occurring disasters
2. Mitigation   - Minimize affects from disaster which may happen
3. Preparedness   - Readiness to face possible disasters
4. Early Warning - Generation and Dissemination of information about imminen disasters

During Disaster

1. Response   - Emergency and Rescue Operations
2. Relief   - Providing of relief materials for victims

Post Disaster

1. Rehabilitation   - Temporary camps, Sanitary, Medical facilities
2. Recovery & Reconstruction   - Provide permanent solutions for victims and infrastructures

Disasters and its Effects to Sri Lanka

Sri Lanka being an island nation with an area of 65,610 km2 and population of 20.8 million (as at 2018) located centrally at the Indian ocean, near the southern tip of the Indian subcontinent with close proximity to the equator is characterized with warm weather associated with two annual monsoonal rainy seasons, making it prone to frequent droughts and floods; due to extreme hydro meteorological conditions influenced by the climate change impacts. Geomorphological conditions of the country make it more susceptible to landslide hazards, particularly in the central hills and other high altitudinal inland areas. and sea level rise etc., while animal attacks, extreme wind events, fire, lightning and The

and sea level rise etc., while animal attacks, extreme wind events, fire, lightning and number of other ecological and human induced hazards including road and industrial accidents are affecting all parts of the country.

During the period from 2005 to 2015, nearly 12 million people of the country were affected by the disasters while accountable for the average disaster mortality rate of 114 persons per annum. The Sri Lanka Rapid Post Disaster Needs Assessment (PDNA) - Floods and Landslides: May 2017, revealed that it had affected about 880,000 persons of 230,000 families and caused nearly 300 deaths including missing persons, while damaging of about 80,000 houses. The monetary value of the total damage exceeded US$ 500 million. (Management2018).

Hydrological disasters are the most frequent and significant disasters experienced in Sri Lanka. Above all, Floods and simultaneous landslides taking the lead. Draught is a slow-onset disaster that results from weather, causing a shortage in precipitation over one or more seasons especially in the Northern, Eastern, Northwestern and Southwestern parts of the country. Following record of key disasters provides better understanding for the disasters and its effects to Sri Lanka during year 2005-2018.

Table 1 : Details of Disasters from 2005 – 2018

Disaster	No. of Events	Deaths	Injured	Missing	Houses Damaged	People Affected
Animal Attack	4921	271	149	2	3087	52790
Cyclone	61	0	0	0	484	2567
Fire	2053	37	75	0	722	11727
Floods	**5501**	**403**	**306**	**102**	**96815**	**8,300,288**
Landslide	1773	337	271	90	6399	217907
Lightning	501	291	168	3	373	2396
Strong Wind	3460	159	475	66	76609	520046
TOTAL	**18270**	**1498**	**1444**	**263**	**184489**	**9107721**

Source: (DMC)

Apart from somewhat rare disasters such as Tsunamis, above information proved that the most ommon and devastating disaster affecting Sri Lanka is floods. Hence, thewriter identifies floods as the most probable next natural catastrophe. Therefore this paper mainly focuses on Sri Lankan readiness and competency to face next floods.

Disaster Management Mechanismin Sri Lanka

With the declaration of International Decade for Natural Disaster Reduction (IDNDR) in 1990 by the United Nations, a new trend in Sri Lanka for DM started in mid 90s. Attention towards Disaster Management increased after the devastating Indian Ocean Tsunami of December 2004. The government appointed a 'Parliamentary Select Committee on Natural Disasters' to identify ways to improve Disaster Management in the country. Based on its recommendations, Sri Lanka Disaster Management (DM) Act No.13 of 2005 was formulated providing the initial legal and institutional framework for holistic disaster management.

Based on its recommendations, Sri Lanka Disaster Management (DM) Act No.13 of 2005 was formulated providing the initial legal and institutional framework for holistic disaster management. Accordingly, the National Council for Disaster Management (NCDM) was established; chairperson being the president. The NCDM is the highest legal body constituted under Act and is responsible for overall disaster management activities in the country. It is mandated to provide legal and policy guidance on overall disaster management mechanism. According to the Act, some of its major functions include;

1.   Promulgate a national policy and programme on the management of disasters

2.   Prepare and formulate the National Disaster Management Plan(NDMP),Monitor the implementation of the NDMP and the National Emergency Operation Plan (NEOP)

3.   Facilitate emergency response, recovery, relief, rehabilitation and reconstruction in the event of any disaster

4.   Assign functions and responsibilities to the Disaster Management Centre (DMC) established under section 8 of the Act.

To implement the provisions of the Disaster Management Act, a multi stakeholder group designed the 'Road Map for Disaster Risk Management- towards Safer Sri Lanka' together with the leadership of the Ministry of Disaster Management. This road map was also in line with the UN sponsored global initiatives for disaster reduction; Hyogo Framework for Action (HFA) 2005-2015 and Sendai Framework for Action (SFA) from 2015-2030. (Management 2014)
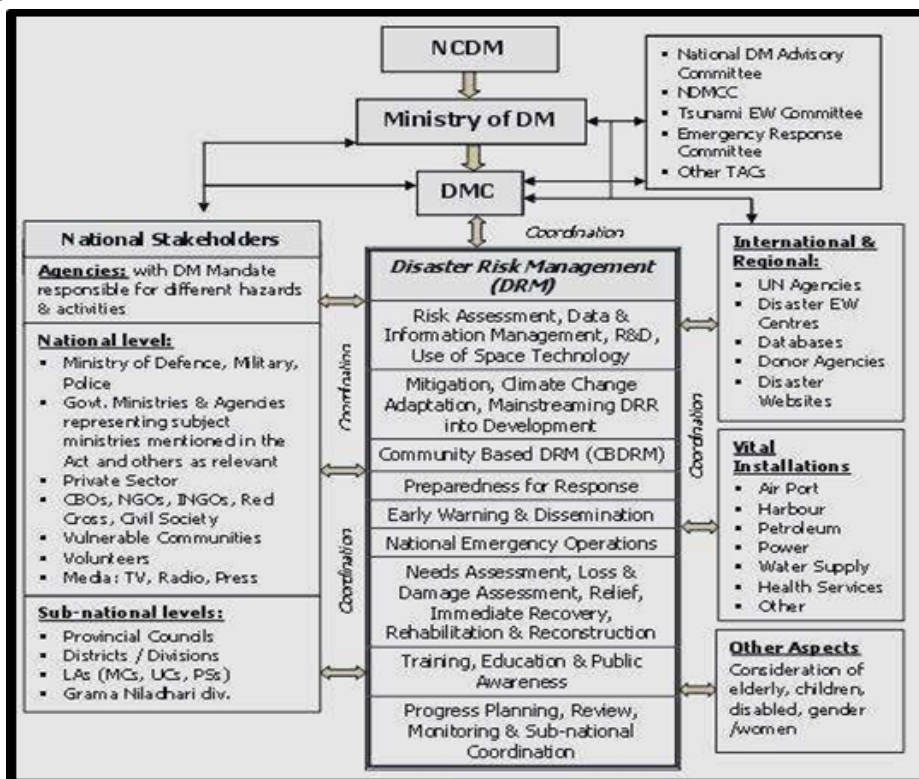

**Figure 2 : National Institutional Framework for Effective DRM**
Source : (DMC)

.vate sector, UN agencies and donor community, established in 2007   for   implementing Disaster Risk Reduction (DRR) strategies in the country. The NDMCC also included members from Tri forces whom deal with disaster response activities meets monthly; coordinated by the DMC.

Ministry of Disaster Management

Ministry of Disaster Management made timely reforms based on the requirements arose when actually dealing with disaster situations. As at present it is structured as follows.
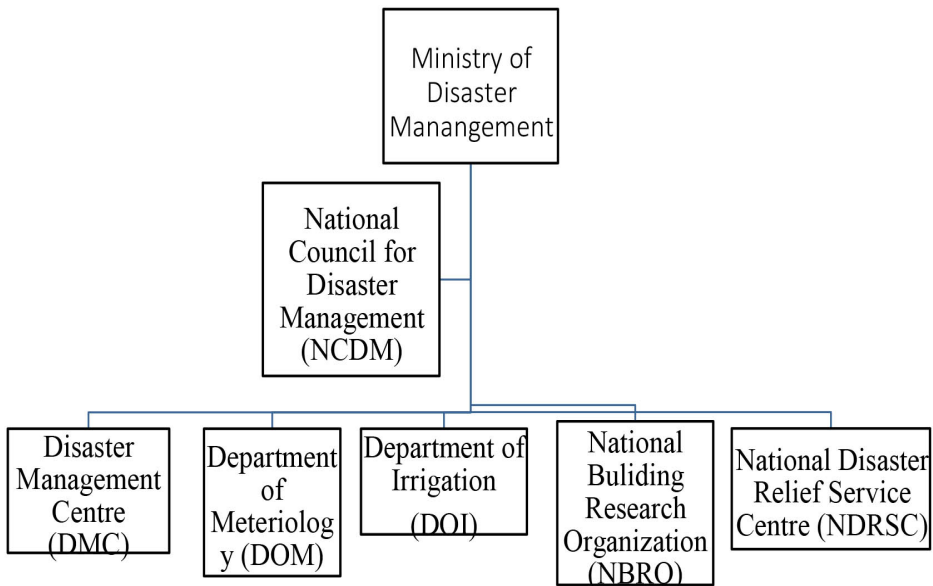
Figure 3 : Organizational Structure of Ministry of Disaster Managemen

Source : (Survey Data)

DMC   - Overall Coordination of Disaster Management Mechanism
DOM   - Provide weather reports and warnings
DOI   - Provide River/Reservoir water levels and Flood forecast
NBRO   - Issue landslide warnings
NDRSC   - Coordinate Disaster Relief and Compensation Mechanism

Actual Situation of Disaster Management Mechanism in Sri Lanka

The plan and arrangement is there, but the problem is how much practical it is and how it is actually works during disasters. NDMP, NEOP and Comprehensive Disaster Management Programme are developed by INGOs/NGOs those who said to be subject experts. Knowledge and competency of officials attached to DM ministry and DMC to handle above programmes and situations on the subject matter is questionable.

This comment is made from the personal experiences of the writer being engaged in the

field as a member of SLN Rescue Unit. NDMCC meeting is held almost every month but very rarely took key decisions/actions meant to Disaster Risk Reduction (DRR). It is noticed that there are many stakeholders in the country which has the capacity, knowledge and resources to prevent or mitigate disasters if they coordinate each other. But, unfortunately that coordination lies only when they meet each other during meetings. There are many research institutes who conduct research works in the field of DM and end up with interesting outcomes. But, they never share it with another organization whom possible to use it practically towards DRR. Surveys and development of Hazard profiles, preventive action plans, and flood inundation mapping using GIS technology are few examples.

Floods as the Prominent Disaster in Sri Lanka

While a flood may on occasion have qualities or causes that fit into multiple classifications, the majority of floods will be in just one category. The importance of classifying floods lies in understanding the causes of floods, which categories of floods are most common and planning for preparedness and mitigation of the types of floods that are most likely and most dangerous.

Riverine Floods

Floods which are overflows of rivers due to runoff from saturated catchment or river obstructions. Riverine floods generally build up over time and from higher elevations to combine in lower river systems, potentially providing enough time for early warnings.

Flash Floods

This is from areas with steep slopes and narrow channels that cause water to move very fast, catching people downstream by surprise. Cause severe effects due to rapidity of occurrence.

Localized Floods

Floods caused by impermeable surfaces. Localized floods mostly occurred in the urbanized areas as a result of poor drainage system.

Floods Created by Reservoir Operations

In which the gates of a reservoir are opened to release excess water. These operations are planned and supervised, but they can still cause damages.

Floods Caused by Reservoir Breaches

When a dam or other type of reservoir fails, leading to sudden, catastrophic flooding. (Assistance 2014)

Major floods in Sri Lanka are associated with the two monsoons. Typically, during the Southwest monsoon season from May to September, the Western, Southern and Sabaragamuwa provinces are vulnerable to floods. During the Northeast monsoon froDecember to February, the Eastern, Northern and North-Central provinces are prone to flooding.

Rivers along the western slopes of the hilly central areas cause floods in the lower flood plains of Kalu River and Kelani River in particular during these periods.

Records from major flooding events during 2000 to 2017, exemplifies a near 20-year trend. The cumulative impact of floods by month between 2000 and 2017 shows that the most vulnerable are the months of December and May, in terms of affected persons.

The spatial distribution of the impact of floods, in terms of affected number of persons shows that the Eastern Province places as the worst affected in all times (4.1 mn.). The other provinces in the rank order as per the descending value of the severity, magnitude and human impact are: Western Province (2.8 mn.) where the business and administrative capitals are located followed by the Northern (0.8 mn.), Southern (0.6 mn.), North Western (0.4 mn.), Sabaragamuwa (0.3 mn.), Uva (0.05 mn.) and Central (0.05 mn.), provinces, respectively. (Management 2018)

According to DMC, during 2004 to 2014 period 9 million people in Sri Lanka were affected by 23 floods with USD 1 billion economic loss. Sri Lanka: Floods and Landslides Emergency Response Plan (June - October 2017), estimates that at least one fourth of the affected are women and girls of reproductive age and over 30% are children among the affected by the flood disaster in 2017.

Inundation maps at 1:10,000 scale are available for four river basins, compiled using a ground survey for the Kelani, Kalu, Gin, and Attanagalu Oya river basins. Further, the Department of Irrigation has initiated to prepare hazard maps for ten river basins frequently affected by floods with the assistance of World Bank Sponsored Climate Resilient Improvement Project (CRIP). (Management 2018)

Contribution of Sri Lanka Navy to the Disaster Management Process in Sri Lanka

Sri Lanka Navy is obliged to protect victims from natural and man-made disasters under the non-naval role of aid to civil power. Sri Lanka Navy as the other forces and Police, used to respond and conduct rescue and relief mission during disasters long time before. But, the significant involvement was commenced aftermath of the humanitarian operations in 2009. SLN commenced its DM and risk reduction works with the establishment of Disaster Management and Canal Rehabilitation Project (Canal Cleaning) targeted for Colombo suburbs

## Formation of the Sri Lanka Navy's Rescue Squadron

Need for a specialized rescue unit in Sri Lanka Navy had become a necessity for conducting Humanitarian Assistance and Disaster Relief (HADR) operations supporting civilian population in need, as a well-qualified and structured security force, equipped with resources and skilled personnel. This idea for a dedicated unit to swiftly respond during natural disasters highlighted in year 2011 national level floods. Accordingly, Sri Lanka Navy initiated action to form a specialized unit absorbing specially trained personnel to face natural calamities, namely Rapid Response Rescue and Relief Squadron (4RS) whichs changed the name as Rapid Response Rescue and Relief Unit (4RU) recently. At the inception RABS personnel who were good at swimming and few other branch personnel who wish to join 4RS were trained for emergency response operations. FGDs, OBMs and some

other essential items required for emergency response missions earmarked for 4RS from each area and Inflatable Rescue Boats (IRBs) were purchased for easy operations.

The primary role of 4RU is to swiftly engage for rescue operations and Life Saving duties during water related disasters, either activated by own or on request primarily from Disaster Management Centre (DMC). In addition, 4RU facilitate training for outside organizations entrusted with waterborne rescue, Life Saving and Small boat handling.

Strength and Readiness for Emergency Response

There are nearly 400 qualified personnel as life savers enlisted to 4RU and attached to disaster prone areas identified in the country keeping ready to deploy within 30 minutes at any time and of notice and within 5 minutes when standby. Basic entity of this unit is called 4R Group (4RG) which is comprised with 3 - 4 Emergency Responders. Eight numbers of such groups form a team (4RT). Organizational Structure of 4RU is as follows
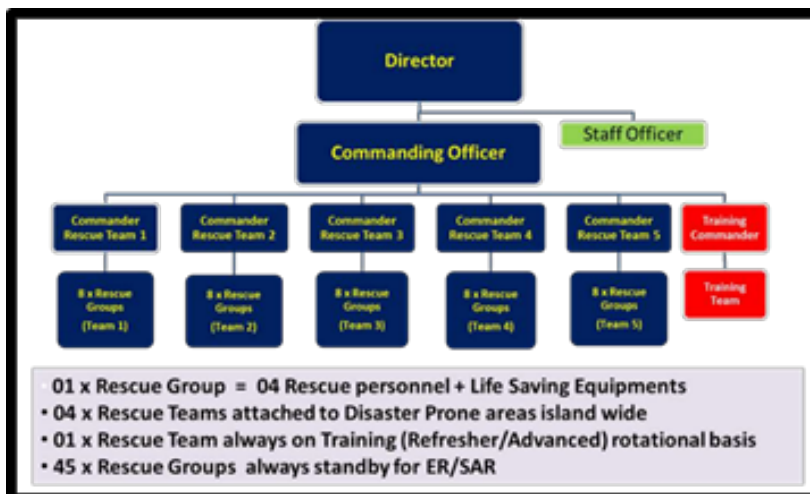
Figure 5 : Structure of SLN Rescue Unit (4RU)
Source : (Survey Data)

Qualified Rescue teams of 4RU presently attached to following selected areas for disasters.

1. Team 1 & 2 - Kaluthara (Cover Galle and Matara areas also)
2. Team 3   - Trincomalee (Cover up to Arugambay)
3. Team 4   - Madawachchiya (Cover Northern and North Central Provinces)
4. Team 5   - Puttalam (On Training and Emergency Deployment)

Location of above teams will be systematically changed in view of refreshing them and to gain the knowledge of the terrain all around the country. One team always engaged for refresher/advanced training under Training Wing of unit HQ at Gangewadiya, Puttalam and Rear Training Area at Kaluthara. Each group equipped witha Fiber Glass or Rubber Boat along with Out Board Motor (OBM) and other essential items for rescue and relief operations. These items are preset and packed in a specially designed box with a check list attached for effective and efficient deployment during emergency situations.

Progress of SLN Disaster Management Mechanism

Emergency response mechanism of the Sri Lanka Navy found to be streamlined with the formation of 4RS/4RU. Now days everybody are very much concerned about disaster management as a subject to deal with. Some are considering individual benefits that they can get through it and some are because they actually need to do something special. Either case, Sri Lanka Navy's emergency response system is developing day by day in a competitive environment. Meanwhile, 4RU personnel become experts in the field of disaster management winning heart and mind of civilian population who are victims of disasters and those who dealt with disasters.

As per the present 'modes operandi'; OCDS will coordinate Tri forces for HADR operations. DMC is the coordinating body and SLN rescue teams will immediately react for disasters upon information received from; OCDs, DMC, GAs, AGAs/DS and Local Authorities or upon own information.

Sri Lanka Navy Disaster Response Unit (DRU) established at Welisara in year 2017 with the aim of keeping DM related equipment in a centralized place DRU presently functions as a safe keeping and distribution stores of DM items and equipment especially during floods whilst the staff there, engage with innovations to respond next disaster.

Op Cloud Burst. Introducing of an unclassified operation order for emergency response during floods is important step taken in conformity with NEOP of the country. This is kind of SOP for flood relief which will alert all concerned when the disaster is imminent. It addressed the amount of readiness required by SLN first responders and then the relief and rehabilitation service. But, during experiences in the recent past it was observed that involvement of too many personnel for the disaster management cycle/hierarchy create chaos rather smooth functioning affirming the saying 'Too many Cooks Spoil the Soup'. Especially, nomination of senior officers to take the leadership in particular areas for flood relief operations found to not effective and uncomfortable for both the parties creating unnecessary administrative issues. Because some of the personnel nominated are not thorough with the subject and their decisions made situations worst.

Present Trends of SLN Emergency Response Mechanism and Proposals for Competency Building

Qualifications of Emergency Responders

Sri Lanka Life Saving (SLLS) is a registered association and the national body for Life saving and water safety in Sri Lanka. Initially, 4RU registered and obtained the full membership there in view of obtaining specific training and certification as internationally recognized life savers. 4RU personnel showed a rapid progress in the field of life saving by winning few national level championships organized by the association. There are internationally recognized standards for a life saver comprised with physical fitness, swimming and water rescue skills, first aid and basic life support. This is any way good because when our personnel encouraged getting that certifications, they automatically trained for the purpose of first responders. Obtaining a qualification from SLLS gradually become officiate in the Navy where many people (every branch) use to apply for this certification through the Navy and get qualified.

Mobile Kitchen

In view of providing hot meals for the SLN rescue and relief teams deployed to flooded areas, a concept called mobile kitchen introduced. If we speak with professional rescuers like 4RU, one can understand whether it is actually required or not. Those who actually engaged with Rescue and relief operations during disasters know that how much self-satisfaction that duty carries with the blessings of the personnel being rescued. It is not so nice to have hot meals whilst innocent civilians, victims of flood are not getting basic needs. Further, it needs lot of effort, personnel and money to deploy a mobile kitchen to flooded areas. Economy of effort is in doubt.

Frequent Disturbance for Rescue Teams

It is observed that, once flood relief teams deployed for operations, every operation room and many other individuals used to contact them obtaining the progress. This practice disturbs rescue operations conducted in difficult terrain plus restrict call time due to battery death and ultimately a failed mission. Clear directive to be passed down to all concerned in this regard from NHQ level.

Flood Mapping with GIS Technology

As a proactive action, SLN recently commenced a project to collect disaster data from the victims and authorities in the vulnerable areas to map inundation areas through the GIS unit. This initiative would be a better one supporting rescue teams if we can develop software to obtain real time mapping for inundation utilizing the available details like precipitation, river water level, topography and weather forecast along with historical records.

Transportation of Rescue Teams

One another drawback of our emergency response system is lack of proper transportation means to dispatch rescue teams and equipment to towards victims soon. Delay in arranging vehicles and poor knowledge and competency of drivers adversely affect the overall operations. Standby suitable vehicles like Tippers or coveredtrucks simultaneously with the teams and prior area/terrain knowledge for them would ensure effective and efficient rescue mission.

Importance of Pre-Deployment

As a recent approach towards flood response operations, 4RU teams pre-deployed to flood prone areas before the disaster in view of gaining proper ground knowledge and some other important information about the area found to be successful.

Use River or Tank Instead Roads

It is always better to move rescue teams through the river which caused the floods in search for victims rather than facing difficulties along the road network when deployed to unknown areas.

Use of Modern Technology

Use of Drone technology for search and rescue operations practiced by many countries

of water proof rugged phones with longer battery life along with cameras for rescue teams would surely enhance the capacity and endurance of flood relief operations. Present practice of issuing power banks should be done well in advance Use of GPS technology and navigation means to locate teams and for easy guidance towards victims are essential methods to be adopted by rescuers. In addition we can conduct awareness programmes for vulnerable people on the use of above methods for their betterment.

Suitable Personnel for the Task

Ensure only competent personnel are deployed as first responders. Name shake deployment of flood relief teams would tarnish the image of the Navy as operating boats in flood water needs experience and training.It is highly recommended to deploy well trained personnel like 4RU as first responders and then others for relief missions for better outcome.

There are three Army and two Air force officers attached to DMC as at present and works as district coordinators to the disaster prone areas in addition to the personnel attached to DMC head office. But, being the key emergency responders for most prominent disaster in Sri Lanka (Floods), there are no such representatives from SLN, 4RU except the appointment of Military Coordinator for captain rank officer there. Hence, it is highly recommend to appoint a field officer (Lieutenant Commander or below) from the SLN 4RU who has been entrusted to handle HADR activities, to the Emergency Operation Centre (EOC) or as a district coordinator of DMC for better coordination and maximum outcome conforming Sri Lankan DM mechanism.

Media Coverage and Appreciation

It is a general practice at present that, media teams deployed for the flooded areas along with rescue and relief teams and make appreciations of duty only upon the photo or video proofs. This system let down the moral status of real heroes as their dedication towards duty as first responders without considering publicity not being assessed.

DMC Training Module by RABS.

As at present Disaster Management and First Response training modules are conducted at the Rapid Action Boat Squadron HQ, Gangewadiya for naval and civilian personnel. This has become productive approach creating set of competent first responders for the country. Uplifting this training establishment to a national or may be up to international level would beneficial.

Night Time Rescue Operations

There is a practice followed by many naval commands of not allowing rescue operations at night considering the safety of rescuer. But, this is the high time for navy to break those shackles, because civilian victims would not tolerate this negative approach.

SOPs and Item Check List.

SOPs are always making any operation successful. Every unit/establishment should follow SOPs for emergency response as already prepared by 4RU along with specific check list and tool box for rapid and effective deployment.

Training of Civilians, School Children and other Services.

We have already launched raining capsules for other service personnel and civilians on the subjects of DM, Life Saving, First Aid and Basic Life Support. This type of training programmes to be continued for achieving our ultimate aim of safer Sri Lanka.

Final Remarks

Yes, we are ready to face next natural catastrophe, which would be the floods as identified by the writer. But, for optimized disaster management, there are many more steps to be taken by Sri Lanka Navy and everybody as a country; some of them are highlighted in this paper.

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ජ්‍යෙෂ්ඨ නාවිකයා යනු නාවික හමුදාවේ නිසි පැවැත්මට අවැසි අන්තර් නායකත්ව පුරුකකි

සුළු නිලධාරී (සංඥා) ප්‍රසාද් අරුණසිරි - නාවික හමුදා මුලස්ථානය

රටවට බැඳි රන් වැට ලෙස විරුදාවලියට පාත්‍ර වූ අභිමානීය ලංකා මාතාවට සැබ-විත්ම හතරවටින් රැකවල්ල සිටිමින් දිනෙන් දින අභිමානවත් අයුරින් ලෙඛර පුරා ලෙළෙන නාවික ධජය යට නාවිකයෙකු විමට ලැබීම අපසතු මහත් භාග්‍යයකි. නාවික හමුදාව නම් වූ ස්වර්ණමය ද්වාරයට ආධුනික නාවිකයෙකු ලෙස පැමිණි අප කළ්පාට මිරි-වැඩි සගළකින් දෙපා සරසාගෙන නාවික හමුදාව තුළ යම්තාක් දුරක් ගමන් කරන්නෙමු. එම ගමන් මගේ සුවිශේෂී හැරවුම් ලක්ෂ්‍ය වන්නේ එම කළ සපත්තු දෙක උනා දමා කිරි පැහැයෙන් බබළන සපත්තු යුවලකට හිමිකම් දරණ දිනයයි. එනම් කණිෂ්ඨ නාවිකයෙකු ලෙස ගතකළ නාවික ජීවිතයට සමු දෙමින් ජ්‍යෙෂ්ඨයෙකු බවට පත්විමයි. අවශ්‍ය මූලික සුදුසුකම් සපුරා යමින් යම් මුහුකුරාගිය සේවාකාලයක් සම්පූර්ණ කිරීමත් සමග නායක නැවි තරාතිරමට සමු දී ජ්‍යෙෂ්ඨ නාවිකයෙකු වශයෙන් උසස් විම් ලැබීමට නාවිකයෙකුට හැකි වේ. මෙය හුදෙක්ම නිල ඇඳුමේ සහ පාවහන් යුගළයේ වෙනස්විමක්ම නොව එය පුළුල් ලෙස නාවිකයෙකු ගේ නාවික ජීවිතයේ අභ්‍යාන්තරව වෙනස්විය යුතු මොහොතකි. එයට හේතු වන්නේ ජ්‍යෙෂ්ඨ නාවිකයෙකු සතු වගකීම් සමුදායට ඔහු මනා ලෙස මුහුණ දී එම චරිතයට සාධාරණීය වූ රංගනයක් ඉදිරිපත් කිරීමයි.

වෘත්තිය නිපුනතාවයන් කඩඉම් පරික්ෂණ වෛද්‍ය පරික්ෂණ මෙන්ම නායකත්ව පා-ඨමාලද ලබා දෙමින් පිරිපුන් ජ්‍යෙෂ්ඨ නාවිකයන් පිරිසක් බිහි කිරීමට නාවික හමුදාව මහත් පරිශ්‍රමයක් මෙන්ම පිරිවැයක් ද දරණ බව නොරහසකි. නමුත් වර්ථමාන නාවික හමුදාවේ මෙසේ ජ්‍යෙෂ්ඨ නාවිකයන් වන සියල්ලම දෙනා එම කාර්යභාරය නිසි අයුරින් සිදු කරනවාද යන්න කිරා මැන බැලිය යුතු යුගය දැන් එළඹ ඇති බැවින් මා සටහන් තබන්නේ ඉතාමත් කාලෝචිත මාතෘකාවක් ලෙසය. ජ්‍යෙෂ්ඨ යන වචනය තුළම ගැබ්ව පවතින්නේ මනා ලෙස පරිපූර්ණ යන අර්ථයි. ඒ කෙසේද යත් යම් පුද්ගලයෙක් ජ්‍යෙෂ්ඨ විය යුත්තේ දැනුමෙන් හෝ සේවා කාලයෙන් පමණක් නොව හුදෙක් මනා විනයකින් මෙන්ම තමා යටතේ සිටින කණිෂ්ඨයන්ට නිසි මග පෙන්වන පුද්ගලයින් බවට ඔවුන් පරිවර්ථනය විමෙති. ජ්‍යෙෂ්ඨ නාවිකයෙකු සතු වගකීම් සමුදාය අතරේ ඇති සුවිශේෂිම කාර්යය නම් එම තරාතිරමට පැවරි ඇති අන්තර් නායකත්ව ගුණයයි.

මෙහි දි අන්තර් නායකත්වය යන්න පිළිබඳව යම් සේ විවක්ෂණය කර බැලමක් කළ යුතු වේ. නාවික හමුදාව තුළ ඇති මානව සම්පත වර්ගිකරණයට ලක් කිරීමේදි ප්‍රධාන වශයෙන් නිලධාරීන් සහ නාවිකයින් ලෙස වෙන් කිරීමට හැකියාවක් ඇත. එය තව දුරටත් උප කුලකයන් ලෙස විභජනය කිරීමේදි ජ්‍යෙෂ්ඨ නිලධාරීන් සහ කණිෂ්ඨ නිලධාරීන් ලෙසද ජ්‍යෙෂ්ඨ නාවිකයින් සහ කණිෂ්ඨ නාවිකයින් ලෙසද වෙන් කළ හැකි වේ. මෙහිදි නාවික හමුදාව මනා ලෙස පවත්වාගෙන යාමට සහ අන්තර් සම්බන්ධතාව මනා ලෙස ගලා යාමට අංශ ක්‍රමය හඳුන්වා දී ඇත. මෙම අංශ ක්‍රමයේ දි නිලධාරියා සහ කණිෂ්ඨ නාවිකයා යන පුරුක් දෙක තුළ ඇති දුරස්ථ භාවය තවදුරටත් දුරස්ථ නොයන්නට ජ්‍යෙෂ්ඨ නාවිකයාට හට ඇති වගකීම ඉමහත්ය. මෙය නාවික හමුදාව සතු සුවිශේෂී අන්තර් නායකත්වයක් වන්නේ එබැවිනි.

අද දවසේ නාවික හමුදාවේ මෙම අන්තර් නායකත්වය යම්තාක් දුරට ගිලිහි ගොස් ඇති අන්දම දිනෙන් දින සිදුවන අමිහිරි සිදුවිම් තුලින් දෘශ්‍යවේ. එනම් එදිනෙදා නාවික ජීවිතයේදි මුහුගැසෙන්නා වූ කණිෂ්ඨ නාවිකයින් සහ ඔවුන් නාවික රාජකාරියේදි උදාසීනව කටයුතු කිරීම දෙස විමර්ශණාත්මකව බැලිමේදි ජ්‍යෙෂ්ඨ නාවිකයන් සතු වගකීම සිදුවෙනවාද යන්න

පැනයක්ව ඇත. නාවික හමුදාවේ දෙපාර්තමේන්තු තුළ ඵලදායිතාව අඩුවෙමින් කණිෂ්ඨ නාවිකයින්ගේ ශ්‍රමය හරි හැටි කළමණාකරනය කිරීමකින් තොරව ගලා යයි. තවද නාවික ජීවිතය සහ සිවිල් ජීවිතය යන්න එකම මගක ඇති රේල් පිහිලි දෙකක් පරිදි සංකලනය කර ගැනීමට ජ්‍යෙෂ්ඨ නාවිකයා නිරතුරු ඔහුට මාර්ග උපදේශකයෙකු විය යුතුයි.

දෙපාර්තමේන්තු තුළ ඵලදායි සහ කාර්යක්ෂම ලෙස රාජකාරී සිදු කිරීමේ දී එහි ප්‍රධාන වශයෙන් වගකීම හිමි වන්නේ එහි ජ්‍යෙෂ්ඨ නාවිකයාට බව තොරහසක්. තවද ජ්‍යෙෂ්ඨය-න්ගේ අවවාදයට වඩා කණිෂ්ඨයන් ඉදිරියේ ආදර්ශමත් විය යුතුය. වර්තමානය වන විට මෙම වගකීම් සමුදාය හරි හැටි තේරුම් නොගැනීම තුලින් නාවික හමුදාව සතු වටිනා අන්තර් නායකත්වයක් අහිමිවී යන අයුරු පෙනියයි. හුදෙක් ලිපි ගොනුවල බහාලන ස්ථා-වර නියෝගයන් තුලින් පමණක් කණිෂ්ඨයන්ගෙන් ඉටුවිය යුතු රාජකාරි අපේක්ෂා කිරීම කිසිසේත් ප්‍රමාණවත් නොවේ. කණිෂ්ඨ නාවිකයන් හා නිලධාරීන් අතර මනා සම්බන්ධතා-වයක් ගොඩනැගීමට නම් නිරන්තරව ජ්‍යෙෂ්ඨ නාවිකයන් ඔවුන්ගේ අන්තර්නායකත්වය උසස් අයුරින් තබාගත යුතුය. නිලධාරීන් මගින් ලබා දෙන නියෝග ඉෂ්ට කිරීමට ජ්‍යෙෂ්ඨ නාවිකයන්ට ඇත්තේ ප්‍රායෝගික වූ වගකීමක් මිස ලිඛිත ලිපි ගොනුවක් මත සටහන් තබා අත්සන් යෙදීම නොවන බව සියල්ම ජ්‍යෙෂ්ඨ නාවිකයන් තරයේ සිහිතබා ගත යුතුවේ. මා මෙසේ සටහන් තබන්නේ හුදෙක් මෙම පරිහානිය තුලින් සිදුවන්නේ තවත් පරපුරක් වෙත සම්ප්‍රේෂණය වීමට ඇති අද්දැකීම් සමුදායක් කාලයේ වැලි තලාව මත නිදන්ව යන බැවිනි. 30 වසරක තිරනාත්මක යුද්ධයක් සාර්ථකව නිම කිරීමට උරුදුන් ඒ අභිමානවත් පරපු-රේ හිමිකරුවන් වන ඔබ අප තවත් නොදුරු කාලයකින් නාවික හමුදාවෙන් සමුගැනීමට නියමිතව ඇත. දිනෙන් දින නව පරපුරක් නාවික හමුදාව තුලට පැමිණෙමින් ඔවුන් පොත පත ඇසුරින් සොයා යන දැනුම පමණක් ඉදිරියේ දී ඔවුනට පිහිට නොවනු ඇත. එබැවින් එම පරපුර ජීව ගුණයෙන් පූර්ණ කිරීමේ අන්තර් නායකත්ව කටයුත්ත පැවරි ඇත්තේ ජ්‍යෙෂ්ඨයන්ට බව තොරහසක්. එම වගකීම හරිහැටි තේරුම්ගත් ජ්‍යෙෂ්ඨයන් නාවික හමුදාව තුළ තවමත් අල්ප වශයෙන් හෝ සිටින නමුත් එය හරිහැටි තේරුම් නොගත් පිරිසක් තුලින් සිදුවන පරිහානිය උදුගම්බලා පිහිනන අතලොස්සක් වූ පිරිසකගෙන් සිදුවන සේවාවට වඩා වැඩි බවද සටහන් තැබිය යුතුමය. මත් වතුරට දැඩිව ලොල් වී ඒ ඔස්සේ නාවික හමුදාවේ වාරිතු වාරිතු කණිෂ්ඨයන්ට ලබාදෙන්නට වෙර දරණ පිරිස දිනෙන් දින වැඩි වේ. එමගින් සිදුවන්නේ ද වාරිතු වාරිතු වෙනුවට අධ්‍යාත්මික සංවරයන් නොමැති පරපුරක් බිහිකිරීමකි.

එපමණක් නොව නාවික හමුදාව තුල දිනෙන් දින දැනුමෙන් මෙන්ම විනයෙන්ද සෝදා පාලුවට ලක්වන බව නිරීක්ෂණය වීමට බොහෝ හේතු සාධක ඇත. එය යම්තාක් දුරට හෝ නන්වා ලීමට නම් ජ්‍යෙෂ්ඨ නාවිකයා යන අන්තර් නායකත්වය ආකල්පමය වෙනසනට ලක්විය යුතු කාලය පැමිණ ඇත. උදසන රාජකාරි ස්ථානයට පැමිණ මරලෝසුව දෙස බලමින් සිටීමට වඩා කළයුතු බොහෝ දේ ඇත. තවද යුද්ධය නොවන වකවානුවක හමුදාව සතු කාර්යයන් අතරින් එක් ස්වර්ණමය කටයුත්තක් වනුයේ පුහුණුවයි. පුහුණු පාසලක් තුල සිද්ධාන්තිය දැනුමින් පෝෂණය වන කනිෂ්ඨ නාවිකයාගේ එම දැනුම ප්‍රායෝගික කරනයට නතුකර ඵලදායි සේවාවක් සිදුකර ගැනීම ජ්‍යෙෂ්ඨ නාවිකයා සතු කාර්යක්වේ. නාවික හමුදා යොමු පොත අංක 8 හි 6 වැනි පිටුවෙහි ජ්‍යෙෂ්ඨ නාවිකයා යන්න නිර්වචනය කිරීමේදී කනිෂ්ඨ නාවිකයන් පුහුණු කිරීම නිතැතින්ම ජ්‍යෙෂ්ඨයාට පැවරි ඇත. නමුදු අවාසනාවකටමෙන් එය දැනසිටින්නේද ඉතා සුළු පිරිසකි. එපමණක් නොව හුදෙක් මත්පැන් සාදයට පමණක් සීමා කර ඇති අන්‍යෝන්‍ය සුහදාවය රාජකාරි කටයුතු වැදිද වර්-ධනය කළයුතු කාලයේ එළිපන්නේ අප අද සිටී. මක්නිසාද යත් නූතන කණිෂ්ඨ නාවිකයා හුදකලාවූ ගමන්මගක යන්නට පුරුදුවී ඇත. ඔවුන් මහ මගදී හමුවන ජ්‍යෙෂ්ඨයකුහට ආ-වාර සමාචාර දැක්වීමට පවා නුහුරු බවක් දක්වයි. එයට ප්‍රධාන හේතුවක් වන්නේ ඔවුන් නිරන්තරයෙන්ම නාවික ජීවිතය යනු තම අංශය නමිවු රාමුවකට කොටුවී සිටීමය. ඔවුන් නිරන්තරයෙන්ම තමාගේ අංශයෙන් පරිභාගිරව රාජකාරියට යොමු කිරීම අද දිනයේ

අපහසු කාර්යයක්ව ඇත. එයට අනුබල දෙමින් පතින පිළවුන්ට ඉතිමන් තබන ජ්‍යෙෂ්ඨයන් ද දිනෙන් දින වැඩවෙමින් පවතී. 30 වසරක යුද්ධය නැමති අඳුරු වළාවන් මේ මිහිකතෙන් තුරන් කිරීමට නාවිකයන් දිවි පිදුවේ අංශ භේදයකින් තොරව බව අද ඒ යුද්ධයට දායක වූ ජ්‍යෙෂ්ඨයන්ටද අමතක වී ගොස් ඇත. කණිෂ්ඨ නාවිකයා හුදකලා ගමනකට පැමිණ නූතන තාක්ෂණික මෙවලම් සමග පොරබදමින් සිටී. එකිනෙකා අතර ඇති අන්‍යෝන්‍ය මිත්‍රත්වය දවසින් දවස බිඳ වැටෙමින් පවතී. එපමණක් නොව බොහෝ පිරිස් තමාට පැවරෙන රාජකාරියෙන් ඔබ්බට දෙනෙත් නොයවන බව දිනෙන් දින ප්‍රත්‍යක්ෂ වේ. නාවිකයා තවත් එක් රාජ්‍ය සේවකයෙකු පමණක් නොවන බවත් ඉන් එහා ගිය උත්තරීතර සේවයක වටිනා පුරුකක් බව පසක් කළ යුතුමය.

තවද එම දුරස්ථභාවයෙන් ඔවුන් මුදවා අන්‍යෝන්‍ය සුහදතාවයකින් අන්‍ය හා අත්වැල් බැඳගෙන එළදායි මෙහෙවරක් ඉටුකිරීමට නම් පෞද්ගලික මතගැටුම් මත දෙකඩවී සිටින ජ්‍යෙෂ්ඨයන් ආදර්ශමත් විය‍යුතුය. එපමණක් නොව කණිෂ්ඨ නාවිකයින් සහ නිලධාරීන් අතර ඇති දුරස්ථභාවය අවම කිරීමේ වගකීම සියලුම ජ්‍යෙෂ්ඨ නාවිකයින් හට පැවරී ඇත. නාවික හමුදා යොමු පොත් අංක 8 දෙස අවධානය යොමුකිරීමේදී රාජකාරියේදී මෙන්ම පෞද්ගලිකවද කණිෂ්ඨ නාවිකයින්ගේ ගැටලු සොයා බැලීමට ජ්‍යෙෂ්ඨ නාවිකයා හට පැවරී ඇත. නමුත් අද දවස වන විට බොහෝ අංශභාර සුලු නිලධාරී වරුන් යනු නිවාඩු අයදුම්පතට අත්සනක් යෙදීමකට පමණක් සීමාවී ඇත. කිසිවිටක තමා යටතේ ඉන්නා කණිෂ්ඨ නාවිකයින් සම්මුඛයට ගොස් ඔවුන්ගේ ප්‍රශ්න අංශභාර නිලධාරීන් වෙත යොමු කරන ජ්‍යෙෂ්ඨයන් අතළොස්සක් තරමට හිඳී ගොස් ඇත. මෙහි ප්‍රතිඵලයක් ලෙස දවසින් දවස නාවික හමුදාව හැරයන ප්‍රමාණය වැඩිවී ඇත.

තවත් එක් කරුනක් වන්නේ අංශ ප්‍රධාන ජ්‍යෙෂ්ඨ නාවිකයන් තමා යටතේ සිටින සියලුම කණිෂ්ඨ නාවිකයින්ට එකලෙස නොසැලකීමය. පෞද්ගලිකව ලැබෙන සුබවිහරණය තොසිතා සියලුම කණිෂ්ඨයින් හට එක මවක් තම දරුවන් සියල්ලන්ට එකලෙස සළකන අයුරින් සැලකිය යුතුය. නාවික හමුදාව සතු වටිනා මානව අන්තර් නායකත්වයක් දවසින් දවස දියාරුවන තවත් එක් සාධකයක් සටහන් තැබියයුතුව ඇත. පරිණත සෙන්පතියන් බඳු නාවික නිලධාරීන් මනා ලෙස ජ්‍යෙෂ්ඨ නාවිකයන් හට ආමන්ත්‍රණය කළද මෑත කාලීනව නාවික හමුදාවට එක්වන කණිෂ්ඨ නිලධාරීන්ට ජ්‍යෙෂ්ඨ නාවිකයා යනු තවත් එක් නාවිකයෙක් පමණක්ව ඇත. ඇතැම්විට කණිෂ්ඨ නාවිකයන් ඉදිරියේ ජ්‍යෙෂ්ඨත්වයට නිසි වටිනාකමක් ලබා නොදීමත් නිසි ලෙස ආමන්ත්‍රණය නොකිරීමත් තුලින් සිදුවන්නේ අනාගත නාවික හමුදාවේ ආචාරධර්ම පද්ධතිය බිඳවැටීමකි.

කාලය අපට නොදැනී දින සති ගෙවී වසරින් වසර ඉගිලී යයි. නාවික හමුදාවේ ජ්‍යෙෂ්ඨ නාවිකයා යන විශිෂ්ට නායකත්වයට පත්පොවන සහෘද නාවිකයිනී ඔබගේ සුවිශේෂීත්වය පසක් කරන්නට අදිටන් කරගනිමින් පිරිපුන් කණිෂ්ඨ නාවිකයින් පිරිසක් දායාද කිරීමට ඔබගේ වගකීම බව සිහිකරගතයුතු කාලය එළඹ ඇත. තම නිවෙස්න තුල බාල සොයුරන් සහ සොයුරියන් යහ මඟ යවන වැඩිමහලු සොයුරන් ලෙස ඔබට එම වගකීම නාවික හමුදාව නම් කුටුම්බය තුලද පැවරී ඇත. අද පැමිනෙන නාවිකයාද නොබෝ කලකින් ජ්‍යෙෂ්ඨයකු වේ. පිරිපුන් නාවිකයන්ගේ හෙට දවස බිහි කිරීමට නම් අද දවසේ සියලුම ජ්‍යෙෂ්ඨයන් හට සුවිශේෂී වගකීමක් පැවරී ඇත. වසර 22ක් පසුකර නාවික හමුදාව නම්වූ සොඳුරු කැදැල්ලෙන් සමුගන්නා දිනය මුදලින් සංතෘප්ත වුවද ආපසු හැරී බලන කළ ඔබ අස්වැද්දූ සාරවත් කෙත් යායක් බඳු කණිෂ්ඨ නාවිකයින් කිරිවැදි කිරට නැනුනු අස්වැන්නක්වී නාවික හමුදාව පෝෂණය කරද්දී ජ්‍යෙෂ්ඨයන්වූ ඔබ තෙනට සතුටු කඳුලු පිරෙනු නොඅනුමානය.

ආශ්‍රිත ග්‍රන්ථ :   නාවික හමුදා යොමු පොත් අංක 08 /පිටු අංක 06.