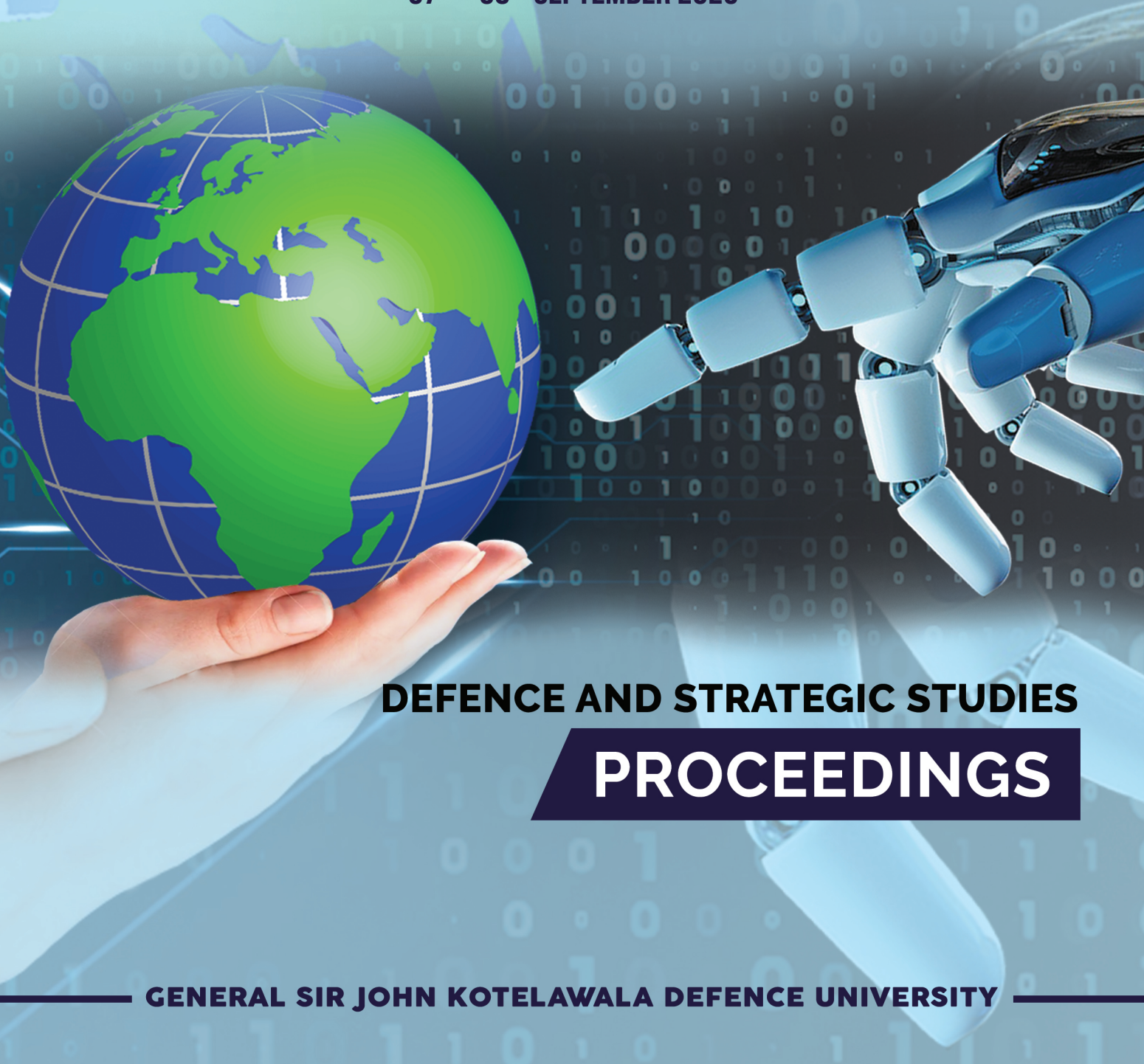




# 16<sup>TH</sup> INTERNATIONAL RESEARCH CONFERENCE

*Achieving Resilience through Digitalization,  
Sustainability and Sectoral Transformation*

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**DEFENCE AND STRATEGIC STUDIES**

**PROCEEDINGS**

**GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY**



# **16<sup>TH</sup> INTERNATIONAL RESEARCH CONFERENCE**

Achieving Resilience through Digitalization, Sustainability, and Sectoral Transformation

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# Unleashing the Power of Strategic Communication: A Shield Fortifying National Security

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**Abstract**— *This research paper explores the role of strategic communication as a defence mechanism in the context of national security in Sri Lanka. The paper aims to analyse the significance of strategic communication in shaping public opinion, countering threats, and achieving policy objectives in the country. It examines the various strategies and challenges associated with implementing effective strategic communication practices. Through a review of existing literature, case studies, and expert opinions, this research paper provides valuable insights. This research paper focuses on two fundamental research questions as below. What is the significance of strategic communication in shaping public opinion, countering threats, and achieving policy objectives within the specific national security landscape of Sri Lanka? What are the strategies employed and challenges faced in the implementation of effective strategic communication practices in the Sri Lankan context? The research objectives are twofold, to analyse the significance of strategic communication in shaping public opinion, countering threats, and achieving policy objectives in Sri Lanka's national security context. And to examine the strategies employed and challenges faced in the implementation of effective strategic communication practices in the specific socio-political context of Sri Lanka. By addressing these research questions and objectives, the study intends to provide valuable insights into the application of strategic communication as a defence mechanism. This research paper has explored how strategic communication strengthens national security in Sri Lanka by shaping public opinion, countering threats, and achieving policy objectives. It has identified strategies and challenges specific to Sri Lanka.*

**Keywords**— **strategic communication, national security, Sri Lanka**

## I. INTRODUCTION

In an era characterized by complex security challenges and information proliferation, the role of strategic communication in national security has assumed unprecedented significance. The art and science of effectively communicating government policies, shaping public opinion, countering threats, and achieving policy objectives have emerged as essential components of modern defence mechanisms. Within the

context of Sri Lanka, a nation that has grappled with longstanding internal conflicts and evolving external threats, the importance of strategic communication cannot be overstated. This research paper embarks on an exploration of the multifaceted landscape of strategic communication within Sri Lanka's national security framework. It seeks to shed light on the strategies employed to shape public opinion, counter emerging threats, and advance policy objectives, while also addressing the intricate challenges and nuances inherent in implementing effective strategic communication practices within the nation. In doing so, this study endeavours to unravel the pivotal role that communication plays in safeguarding the nation's security, fostering unity, and contributing to the pursuit of broader policy goals in a dynamic and complex socio-political landscape.

## II. METHODOLOGY

The research methodology for this study involves a comprehensive literature review to examine the role of strategic communication as a defence mechanism in Sri Lanka's national security. Relevant literature from academic databases, journals, books, reports, and online sources is collected and analysed using qualitative methods and thematic analysis. The collected data is synthesized to identify key insights, commonalities, and gaps in strategic communication practices. The study concludes by summarizing the findings, providing recommendations for future research and policy implications, and aiming to contribute to the understanding of strategic communication's significance in Sri Lanka's national security.

## III. FINDINGS AND DISCUSSION

A. *Strategic communication in the national security landscape*

In summary, strategic communication within the national security landscape is a comprehensive and

carefully orchestrated effort by governments and security organizations to achieve specific national security objectives. It encompasses various communication strategies and tools aimed at shaping public perception, informing diverse audiences, and influencing behaviour. Key components include crafting messages, analysing audiences, engaging with the media, crisis communication, countering misinformation, shaping public opinion, international diplomacy, psychological operations, ethical compliance, and continuous assessment. Ultimately, strategic communication is essential for garnering public support, mitigating threats, and successfully achieving policy goals in an ever-changing national security context.

### 1. *Theoretical “strat com” models and frameworks used in national security:*

Various theoretical models and frameworks are applicable to strategic communication within the national security landscape. These models provide structured approaches to plan, execute, and assess communication efforts in the context of national security. Some key theoretical models and frameworks include below,

- i. **The Four P's Model (Public, Policy, Program, Performance):** Emphasizes aligning strategic communication with public perception, policy objectives, program execution, and performance evaluation for effective communication.
- ii. **The OODA Loop (Observe, Orient, Decide, Act):** Advocates for agility and rapid adaptation in decision-making, crucial in rapidly changing security environments.
- iii. **The RACE Model (Research, Action, Communication, Evaluation):** Focuses on the iterative process of researching the situation, taking action, communicating effectively, and evaluating outcomes, particularly useful in crisis communication.
- iv. **The Situational Crisis Communication Theory (SCCT):** Offers guidelines for effective communication strategies during crises, considering the severity of the situation.
- v. **The Joint Information System (JIS):** Stresses clarity, consistency, and coordination in information dissemination, widely used in joint operations.
- vi. **The Elaboration Likelihood Model (ELM):** Explains how individuals process persuasive messages, aiding in crafting effective communication strategies to influence public opinion and behavior.

vii. **The Two-Step Flow Theory:** Highlights the role of opinion leaders and influencers in shaping public opinion, critical in identifying and engaging with these influencers for information dissemination.

viii. **The Public Diplomacy Model:** Focuses on building and managing relationships with foreign audiences to advance foreign policy objectives, enhancing a nation's image and reputation abroad.

ix. **The Integrated Strategic Communication (ISC) Framework:** Promotes integration of various communication channels and tactics to ensure consistency in conveying messages related to national security.

x. **Five Cs Model (Coherence, Consistency, Continuity, Contingency, and Capacity):** Developed by the U.S. Department of Defense, emphasizes coherent, consistent, and adaptable communication efforts to effectively address national security challenges.

These models and frameworks provide valuable guidance to government agencies, security organizations, and communication professionals involved in strategic communication within the national security domain. They assist in structuring communication strategies, enhancing effectiveness, and adapting to the dynamic nature of modern security environments.

### 2. *Communication theories used in national security; in Asian developing states:*

Communication theories play a crucial role in shaping national security policies and responses in Asian states like Sri Lanka. Some relevant communication theories in this context such as below,

- i. **Agenda-Setting Theory:** Media influences public opinion by highlighting specific issues, setting the agenda for public discourse, and emphasizing security priorities.
- ii. **Framing Theory:** Information is presented to influence how people perceive security threats and government responses, garnering support for security policies.
- iii. **Crisis Communication Theory:** Essential for managing public perception, providing accurate information, and minimizing panic during security crises.
- iv. **Diffusion of Innovations Theory:** Explains the adoption of security strategies and counterterrorism measures by different segments of the population.



- v. Elaboration Likelihood Model (ELM): Examines how individuals process persuasive messages, informing communication strategies to influence public opinion and behaviour.
- vi. Two-Step Flow Theory: Opinion leaders play a vital role in disseminating information and shaping public opinion, especially in promoting national security policies.
- vii. Spiral of Silence Theory: Explains how social norms and fear of isolation influence public support or dissent regarding security measures.
- viii. Public Diplomacy Theory: Utilizes communication strategies to build relationships with foreign audiences, fostering international cooperation on security issues.
- ix. Cultural Theories of Communication: Emphasize understanding cultural nuances in multi-ethnic Asian states like Sri Lanka for effective communication and unity.
- x. Social Identity Theory: Examines how group dynamics and identities influence beliefs and behaviours, aiding in targeted communication strategies to address security threats.

These theories provide a foundation for designing and implementing effective communication strategies that align with national security objectives, address cultural contexts, and engage diverse populations in Asian states like Sri Lanka.

### *B. Shaping public opinion*

Strategic communication serves as a critical defence mechanism within the realm of national security, playing a pivotal role in shaping public opinion. In the context of Sri Lanka, a country that has experienced its fair share of internal conflicts and security challenges, the significance of strategic communication cannot be overstated. The ability to effectively manage and influence public sentiment is essential for a nation's stability, as it directly impacts the support and cooperation of its citizens in times of crisis and conflict. This paper explores the multifaceted role of strategic communication in Sri Lanka's national security, with a primary focus on its capacity to shape public opinion.

Public opinion is an invaluable asset in the arsenal of national security strategies, as it can be a decisive factor in the success or failure of security initiatives. Sri Lanka's history has demonstrated that the perceptions and attitudes of its citizens can significantly impact the trajectory of its security situation. Whether addressing ongoing internal conflicts or responding to external threats, the government and security apparatus must actively engage with the public to garner support, trust, and cooperation. Strategic communication, therefore,

becomes the bridge between national security objectives and the perceptions held by the populace.

Strategic communication in the Sri Lankan context involves crafting and disseminating messages and narratives that align with the nation's security goals. It entails not only conveying information but also influencing public sentiment and behaviour. This process demands a deep understanding of the unique cultural, historical, and socio-political dynamics at play in Sri Lanka, where various communities coexist with diverse perspectives and sensitivities. The communication strategies employed must navigate this intricate landscape while aiming to foster unity, trust, and a shared sense of purpose among the citizenries.

One essential facet of shaping public opinion in Sri Lanka's national security context is the cultivation of narratives that resonate with the diverse population. These narratives should not only address immediate security concerns but also reflect the broader aspirations and values of the nation. The media and digital platforms serve as powerful tools in disseminating these narratives effectively. However, in a landscape marked by varying degrees of media freedom and censorship, navigating these channels can be challenging. The government must strike a balance between safeguarding national security and upholding democratic values, ensuring that strategic communication efforts are seen as legitimate and trustworthy by the public.

Engagement with civil society, opinion leaders, and community representatives is another vital component of shaping public opinion in Sri Lanka's national security framework. These stakeholders often possess the ability to sway public sentiment and can act as intermediaries between the government and the citizenry. Building collaborative relationships with these influencers and fostering open dialogues can facilitate a more receptive and informed public, contributing to a more stable and secure environment.

Strategic communication as a defence mechanism in national security is of paramount importance in Sri Lanka, where public opinion significantly impacts the nation's security landscape. By crafting tailored narratives, engaging with various stakeholders, and addressing the unique challenges of the Sri Lankan context, effective strategic communication can help build public trust, unity, and support, ultimately enhancing the nation's ability to address security challenges and achieve its policy objectives.

### *C. Countering threats*

Strategic communication stands as a formidable defence mechanism in the realm of national security, particularly when it comes to countering threats. Within the context of Sri Lanka, a nation that has grappled with various internal conflicts and external challenges over the years, the role of strategic communication takes on heightened importance. It serves as a linchpin in the government's efforts to identify, address, and mitigate threats to national security. This paper delves into the critical role of strategic communication in effectively countering threats within Sri Lanka's national security landscape.

In Sri Lanka, a nation marked by its diverse population and complex social fabric, threats to national security can manifest in various forms. These threats may include terrorism, insurgencies, cyber attacks, disinformation campaigns, communal tensions, or geopolitical rivalries. The ability to effectively counter such threats often depends on how well the government and security apparatus communicate with the public, disseminate information, and manage perceptions.

Strategic communication in threat mitigation involves several key elements. Firstly, it necessitates a rapid and coordinated response to emerging threats, ensuring that accurate and timely information reaches the public and relevant stakeholders. This can involve disseminating alerts, advisories, and instructions during crises, such as natural disasters or security incidents.

Secondly, it involves countering propaganda and disinformation that may be disseminated by threat actors to create fear, confusion, or dissent. By actively debunking false narratives and promoting credible information sources, strategic communication can help prevent the spread of misinformation and maintain public trust.

Thirdly, it requires fostering a sense of unity and shared purpose among the citizenries. This involves not only conveying the government's commitment to security but also engaging with various communities to build trust and cooperation. Public support is often pivotal in identifying and countering threats, making the role of strategic communication indispensable.

Additionally, in the age of digital connectivity, strategic communication includes efforts to bolster cyber security and protect critical infrastructure. Public awareness campaigns and education on cyber security best practices are essential in countering cyber threats, as they empower individuals and organizations to defend against online attacks.

However, implementing effective strategic communication in threat mitigation is not without its challenges. Sri Lanka's diverse population, multiple languages, and regional disparities pose communication challenges that demand careful consideration. Furthermore, ensuring transparency and credibility in communication efforts is vital to maintaining public trust, particularly in a climate where scepticism may be high due to past conflicts and tensions.

Strategic communication serves as a linchpin in the defence against threats to national security within Sri Lanka. By swiftly and effectively disseminating information, countering propaganda, fostering unity, and bolstering cyber security, it plays a pivotal role in addressing the multifaceted challenges that can undermine the nation's stability and security. Navigating these challenges requires careful planning, cultural sensitivity, and a commitment to transparency, all of which are essential in countering threats through strategic communication.

1. *Terrorism and insurgencies:* Strategic communication is crucial for countering the threats of terrorism and insurgencies, as exemplified by the Aragalaya movement in Sri Lanka. It plays a pivotal role in disrupting extremist activities by offering alternative narratives, countering propaganda, and ensuring accurate information reaches vulnerable communities. Early warning and detection are essential components, helping prevent potential attacks through timely information dissemination. Building community resilience is another vital aspect, involving engagement with vulnerable populations to address grievances and foster trust with security forces. Additionally, countering extremist narratives in the digital sphere is crucial, given the influence of social media. However, strategic communication faces challenges, including Sri Lanka's linguistic and cultural diversity and the need for transparency and credibility to gain public trust. In summary, strategic communication is indispensable in countering terrorism and insurgencies in Sri Lanka, requiring a multifaceted approach that addresses root causes, disrupts propaganda, and builds community resilience while being culturally sensitive, technologically adept, and committed to transparency and trust-building.

2. *LTTE disinformation campaigns:* Strategic communication is a crucial defence mechanism in Sri Lanka's national security efforts, especially when countering disinformation campaigns, like those employed by the LTTE. The LTTE's use of propaganda and falsehoods to manipulate public opinion domestically and internationally posed significant

challenges. Strategic communication emerged as a vital tool for the government to counter these narratives, maintain credibility, and ensure accurate portrayals of facts and policies. This approach involves timely and accurate information dissemination to mitigate the impact of false narratives, engage with diverse audiences, and foster understanding, trust, and reconciliation. Nevertheless, countering disinformation campaigns through strategic communication remains challenging due to deeply rooted beliefs and the need for culturally sensitive messaging. In essence, strategic communication is indispensable for safeguarding national security and maintaining transparency in the face of complex historical conflicts in Sri Lanka.

3. *Geopolitical rivalries:* Strategic communication is a vital defence mechanism in Sri Lanka's national security, particularly when addressing threats stemming from geopolitical rivalries in the Indian Ocean region. Sri Lanka often finds itself in the crosshairs of competing major powers, making effective communication crucial. Strategic communication helps clarify the country's positions, mitigate misunderstandings, and manage crises during diplomatic tensions, economic competition, or military posturing. It also reinforces diplomatic efforts and builds alliances while balancing national sovereignty and citizens' concerns. Ultimately, strategic communication is essential for Sri Lanka to navigate the complexities of international relations, protect its sovereignty, and maintain regional stability in a strategically significant location.

#### *D. Achieving national security policy objectives*

Strategic communication plays a pivotal role as a defence mechanism in achieving national security policy objectives in Sri Lanka. The nation's security policy objectives encompass a wide range of goals, including the preservation of territorial integrity, the promotion of stability, and the prevention of external threats. Strategic communication serves as the linchpin that connects these objectives to the broader populace, both domestically and internationally, by conveying the government's vision, policies, and actions.

One fundamental aspect of utilizing strategic communication for achieving national security policy objectives is the alignment of messages with overarching goals. This entails crafting clear and consistent narratives that emphasize the importance of these objectives and how they contribute to the nation's security and prosperity. Whether it involves countering terrorism, managing border disputes, or enhancing diplomatic relations, strategic communication ensures

that the government's actions are understood and supported by the public.

Moreover, strategic communication serves as a mechanism to garner domestic and international support for these policy objectives. On the domestic front, it fosters a sense of national unity by emphasizing shared values and common goals. It engages with different segments of society, including civil society, opinion leaders, and communities, to build trust and cooperation in pursuit of these objectives.

In the international arena, strategic communication helps position Sri Lanka as a responsible and reliable partner, strengthening its diplomatic ties and alliances. Effective communication with foreign governments, organizations, and international institutions is essential in garnering support, especially when addressing regional or global security challenges that require collaborative efforts.

However, implementing strategic communication for achieving national security policy objectives is not without challenges. Sri Lanka's diverse population with varying linguistic, cultural, and regional backgrounds demands careful tailoring of messages and outreach efforts. Ensuring transparency and credibility is paramount, especially in a society where scepticism may persist due to historical conflicts and tensions.

Strategic communication serves as a linchpin in achieving national security policy objectives in Sri Lanka. By aligning messages with policy goals, fostering domestic unity, and building international partnerships, strategic communication plays a crucial role in conveying the government's vision and actions to both domestic and international audiences. In navigating these challenges, a nuanced, culturally sensitive, and transparent approach to communication is essential to secure the nation's interests and enhance its security in a complex and dynamic global landscape.

#### *E. Challenges associated with implementing effective strategic communication*

Implementing effective strategic communication in the national security landscape of Sri Lanka presents a myriad of challenges that necessitate a nuanced and adaptive approach. These challenges span various domains and significantly impact the ability to communicate coherently and comprehensively. This section delves into the key challenges faced in implementing strategic communication within Sri Lanka's national security framework.

1) *Cultural and Linguistic Challenges:* Sri Lanka's rich cultural diversity and multiple languages pose significant challenges to strategic communication efforts. The country comprises several ethnic and religious groups, each with its own cultural nuances and languages. Crafting messages that resonate with these diverse communities while avoiding misinterpretations or offence requires a deep understanding of the cultural fabric. Moreover, ensuring that messages are communicated effectively in the multitude of languages spoken across the country demands meticulous planning and resources.

2) *Media Landscape and Censorship Issues:* The media landscape in Sri Lanka has historically been characterized by polarization and political influence. Censorship, self-censorship, and media restrictions have been recurring issues, limiting the scope for open and transparent communication. Striking a balance between freedom of the press and the need for responsible reporting in national security matters remains a challenge.

3) *Coordination and Inter-Agency Challenges:* Effective strategic communication necessitates seamless coordination among various government agencies and security forces. In Sri Lanka, achieving this synergy can be challenging due to bureaucratic structures, inter-agency rivalries, and differences in communication strategies. Ensuring that all stakeholders work cohesively to convey consistent messages is crucial for building public trust and achieving communication goals.

4) *Lack of Resources and Training:* Resource constraints and limited training opportunities pose challenges to developing and implementing effective strategic communication campaigns. Investing in the necessary human and financial resources for research, message development, media engagement, and crisis communication is essential. Additionally, capacity-building efforts should prioritize training communication professionals in the evolving field of strategic communication.

5) *Public Scepticism and Trust Issues:* Years of conflict and ethnic tensions have left segments of the Sri Lankan population sceptical about government communications. Rebuilding trust and credibility is a persistent challenge, particularly when addressing sensitive national security issues. Public scepticism can hinder the acceptance of government narratives and policies, requiring long-term efforts to establish trust.

6) *Security Concerns:* Sri Lanka has experienced security threats in the form of terrorism and communal tensions. Security concerns, including the risk of retaliatory attacks or further instability, can impact the openness and transparency of communication efforts. Striking a balance between security needs and public information access is an ongoing challenge.

7) *Legal and Ethical Considerations:* Navigating legal and ethical considerations, including issues related to privacy, human rights, and freedom of speech, is a complex challenge. Balancing the need for transparency with the protection of sensitive information is crucial. Ensuring that communication efforts adhere to international legal standards while addressing domestic security needs is an ongoing ethical dilemma.

Implementing effective strategic communication in Sri Lanka's national security landscape is beset by a range of challenges. Addressing these challenges requires a comprehensive understanding of cultural and linguistic diversity, media dynamics, inter-agency coordination, resource allocation, public perception, security concerns, and ethical considerations. Overcoming these obstacles is essential for building public trust, maintaining national security, and achieving communication objectives in a complex and dynamic environment.

### *F. Strategies to overcome the challenges*

Addressing the challenges faced in implementing effective strategic communication in Sri Lanka's national security landscape requires a multifaceted approach. The following strategies encompass recommendations, policy changes, capacity-building efforts, transparency initiatives, and stakeholder engagement to enhance strategic communication practices:

#### *1) Recommendations for Improving Strategic Communication Practices:*

- i. **Comprehensive Communication Strategy:** Develop a comprehensive and integrated strategic communication strategy that aligns with national security objectives, outlines key messages, target audiences, and channels, and provides a framework for consistent communication efforts.
- ii. **Audience Analysis:** Conduct in-depth audience analysis to understand the diverse cultural and linguistic backgrounds of the Sri Lankan population. Tailor messages to resonate with different communities and segments of society.
- iii. **Research and Feedback Mechanisms:** Invest in regular research and feedback mechanisms to assess the effectiveness of communication efforts. Solicit public

input and use data-driven insights to refine strategies and messages.

### 2) *Policy and Institutional Changes Needed:*

i. **Media Freedom and Regulation:** Advocate for policies that promote media freedom and independence while establishing transparent and fair regulatory mechanisms. Encourage responsible journalism that supports national security objectives.

ii. **Inter-Agency Collaboration:** Establish clear guidelines and mechanisms for inter-agency collaboration in strategic communication. Encourage information sharing and coordination among government agencies and security forces.

### 3) *Capacity Building and Training Programs:*

i. **Professional Development:** Invest in capacity-building and training programs for communication professionals, security personnel, and relevant government officials. Equip them with the skills and knowledge needed for effective strategic communication.

ii. **Crisis Communication Training:** Develop specialized training programs to prepare communication teams for crisis communication scenarios. Ensure they can respond promptly and effectively during emergencies.

### 4) *Enhancing Transparency and Credibility:*

i. **Transparency Initiatives:** Implement measures to enhance transparency in government actions and policies related to national security. Share information proactively, especially when dealing with sensitive issues.

ii. **Accountability Mechanisms:** Establish mechanisms to hold government officials and security agencies accountable for their actions. Transparency and accountability enhance credibility and public trust.

### 1) *Engaging with Diverse Stakeholders:*

i. **Community Outreach:** Engage with diverse stakeholders, including civil society organizations, religious leaders, community leaders, and opinion influencers, to build trust and cooperation. Collaborate with these groups in communication efforts aimed at countering radicalization and promoting peace.

ii. **International Engagement:** Strengthen international partnerships for strategic communication and information sharing. Engage with international organizations and foreign governments to align communication strategies with global security priorities.

Incorporating these strategies into Sri Lanka's national security framework can help address the challenges faced in implementing effective strategic

communication. By improving communication practices, fostering transparency and credibility, and engaging with diverse stakeholders, Sri Lanka can better navigate its complex security landscape and build public support for its national security objectives.

## IV. CONCLUSION

In concluding remarks, this research paper has explored the vital domain of strategic communication in the context of national security, specifically focusing on Sri Lanka. It has emphasized the importance of strategic communication in shaping public opinion, countering threats, and achieving policy objectives within the national security landscape. The study began with an examination of the background and context, highlighting the significance of this field. Drawing from a wide array of communication theories and theoretical frameworks, the research has underscored the theoretical foundations that underpin effective strategic communication practices. Moreover, it has demonstrated the practical applications of these theories within the realm of national security. Throughout the paper, the core themes of strategic communication practices and the challenges they face have been thoroughly investigated. These challenges encompass cultural and linguistic diversity, media landscape dynamics, coordination issues, resource limitations, public scepticism, security concerns, and ethical considerations.

Crucially, the research doesn't stop at identifying challenges but extends its reach to offer strategic solutions. Recommendations for enhancing strategic communication practices, advocating policy changes, prioritizing capacity building, and emphasizing transparency, credibility, and engagement with diverse stakeholders have been put forward. In essence, this research underscores the pivotal role that strategic communication plays in national security and urges that installing a strategic communication mechanism to defend national security in Sri Lanka is crucial for countering threats, building public trust, managing crises, fostering international relations, countering disinformation, respecting cultural sensitivities, ensuring policy implementation, and upholding ethical standards. Such a mechanism plays a pivotal role in effectively engaging citizens, shaping public opinion, and navigating the multifaceted security landscape in defending the national security of Sri Lanka.

## REFERENCES

1. Fernando, N., & Rajapakse, D. (2019). The Role of Strategic Communication in Countering Extremism in Sri Lanka. *International Journal of Communication Research*, 9(1), 45-62.
2. Perera, R., & Silva, K. (2017). Strategic Communication and National Security: A Sri Lankan Perspective. *Journal of Strategic Communication*, 25(3), 189-207.
3. Senanayake, P., & Gunaratne, R. (2018). Strategic Communication Challenges in Sri Lanka: A Case Study on Reconciliation and Peacebuilding. In *Proceedings of the International Conference on Communication and Media Studies* (pp. 123-135). Colombo, Sri Lanka.
4. Perera, R., & Samarasinghe, D. (2018). Strategic Communication for National Security: The Sri Lankan Experience. *Journal of Defense Management*, 8(2), 45-62.
5. Gunaratne, R., & Pillai, S. (2019). Strategic Communication and National Security: A Case Study of Sri Lanka. *Journal of Strategic Studies*, 42(4), 570-5

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# Heating the Battle Space: Consequences of Climate Change on Air Operations

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**Abstract** - Climate change is not a prediction, it is a present-day ground reality. It has been accelerated by man-made reasons primarily by the emission of greenhouse gases and deforestation. This study is focused on the consequences of global warming specifically on air operations. Objectives of the study are to find out the consequences of global warming, particularly on air operations, to identify the measures taken by different stakeholders to address the issues due to global warming, to determine the level of commitment of aviators in adopting the measures to address global warming and potential inputs of technology to mitigate adverse effects of global warming on air operations. The methodology of the study adopted an inductive approach to this exploratory qualitative study and pragmatism was the philosophy. Grounded theory was the strategy and the time horizon was cross-sectional. Data collection and analysis happened to be the technique. Primary data were collected through a sample of aviators operating in tropical regions, selected through purposive sampling. There were two recommendations based on the research outcome namely, to encourage global-level discussions for seeking long-term solutions, continue research on sustainable solutions and develop a combined strategy. Humans kind have already joined the vicious cycle of climate change and accelerated it through a variety of activities, essential for modern-day living. Yet there are ways and means to slow down the process of global warming, which require short-term and long-term solutions. Collective effort through genuine collaboration could yield better results than working in isolation.

**Keywords** – Air operations, Global Warming, Climate Change, Sustainable solutions

## I. INTRODUCTION

Climate change is a novel notion. It is not a prediction but a ground reality today. It has been there at the outset. Then the question arises, why the world has paid more attention to climate change in the latter decades? It has been identified that man-made reasons have accelerated the rate of climate change significantly and in turn, there will be a dramatic change to the livelihood on planet Earth (Zandalinas, Fritschi and Mittler, 2021). Despite the way too different contributions to climate change by different stakeholders, the price for the same

would have to be paid collectively. Nonetheless, certain states, regions, and entities would have more impact than others such as coastal regions and islands. Air space could be considered one of the most affected due to climate change. Thus, the study is focused on the inevitable consequences of one specific segment of climate change namely the global warming on air operations by military elements, which predominantly behaves across the atmosphere.

## II. METHODOLOGY

Researchers adopted an inductive approach to explore the research gap between the expected effectiveness of the measures taken for addressing global warming and the actual effectiveness of those measurements. During the exploratory qualitative study, pragmatism has been the philosophy whilst adopting grounded theory as the strategy. The time horizon was cross-sectional. The collection of primary data was through interviews with aviators of the Sri Lanka Air Force, Royal Omani Air Force, Indian Air Force and Pakistan Air Force selected purposively. The study population was aviators operating in tropical regions, where atmospheric temperatures are relatively higher. The theoretical population is all aviators operating under a heated-up atmosphere as of now and in the future. Secondary data were collected through literature and related conference proceedings. Data collection and analysis was the technique adopted.

### A. Conceptualization

The conceptual framework has been formulated based on the theoretical framework as follows.

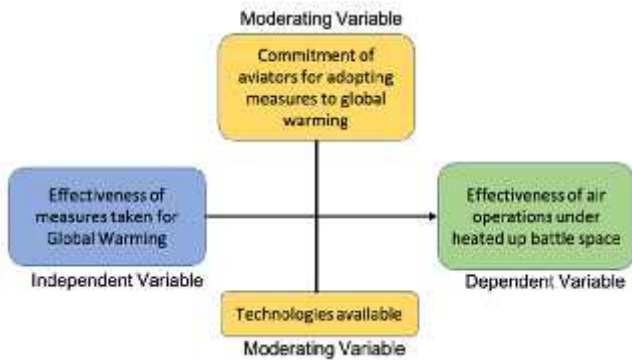


Figure 1: Conceptual Framework

Source: (Authors, 2023) **CLIMATE CHANGE AND GLOBAL WARMING**

Climate change and global warming have emerged as two of the most pressing and inseparable environmental challenges today (Zandalinas, Fritschi and Mittler, 2021). The scientific consensus is clear: natural and man-made reasons. As far as human activities are concerned, particularly the burning of fossil fuels, emission of greenhouse gases and deforestation, are the primary drivers of these phenomena. The consequences of climate change and global warming are far-reaching and pose significant threats to global ecosystems, economies, industries and future generations.

One of the most evident impacts of climate change is the rise in global temperatures. Over the past century, the Earth's average temperature has increased by approximately 1 degree Celsius (Kerr, 2007). One degree may seem like a small change, but it has profound implications. Rising temperatures lead to the melting of polar ice caps and glaciers, causing sea levels to rise. Coastal regions are already experiencing more frequent and severe flooding, displacing communities and threatening infrastructure (Masson-Delmotte et al., 2018).

This paper intends to discuss the consequences of global warming rather than the reasons behind it. Even though the consequences of global warming are multifaceted, this paper will limit its focus on the impacts particularly upon air operations as follows:

- A. Disrupted weather patterns
- B. Effects on aircraft performance
- C. Effects on human performance
- D. Sustainability of aircraft and associated equipment
- E. Risk of fire hazard
- F. Rise of sea level

Several organizations are monitoring and studying climate change and global warming. United Nations (UN), National Aeronautics Space Administration (NASA),

Climatic Research Unit of the United States of America (USA), and National Oceanic and Atmospheric Administration of the USA...etc are among key such organizations. The statistics analyzed by these organizations unanimously represent a continual and sharp rise in global temperature. Two following indexes are depicting the rise of global surface temperature as well as the ocean temperature.

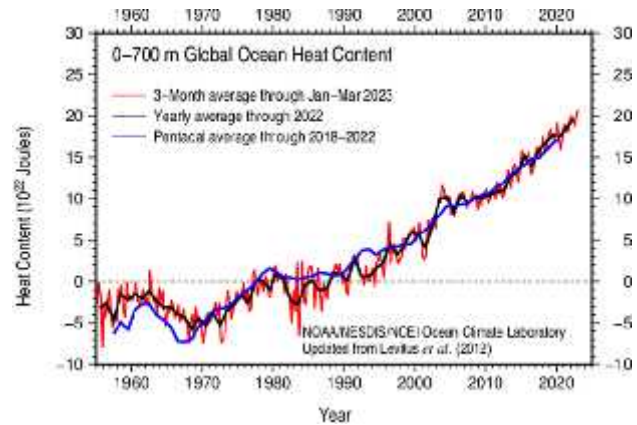


Figure 2: Global Average Surface Temperature Index  
Source: [www.climate.gov](http://www.climate.gov)

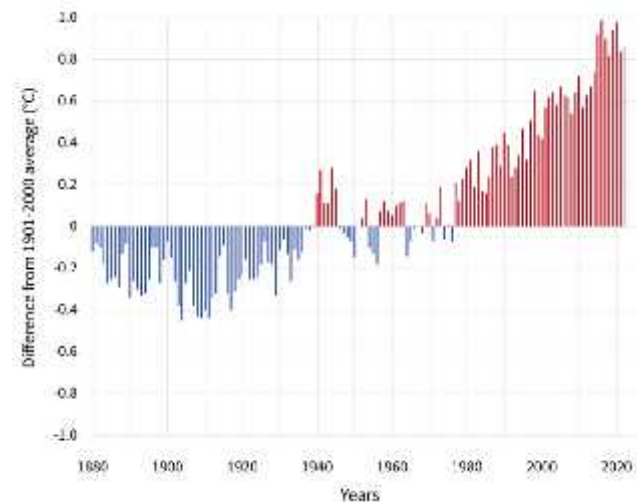


Figure 3: Global Average Ocean Heat Content  
Source: [www.ncei.noaa.gov](http://www.ncei.noaa.gov)

The empirical data reveal that the hottest years as far as the average global temperature is concerned are 2016 and 2020. Nonetheless, 7-11 Jun 2023 had been recorded as the highest ever average global temperature recorded trussing previous data by a substantial margin as highlighted by European Uion’s Climate Monitoring Unit.

“The world has just experienced its warmest early June on record”

-Samatha Burgess, Deputy Director of the Copernicus Climate Change Service-



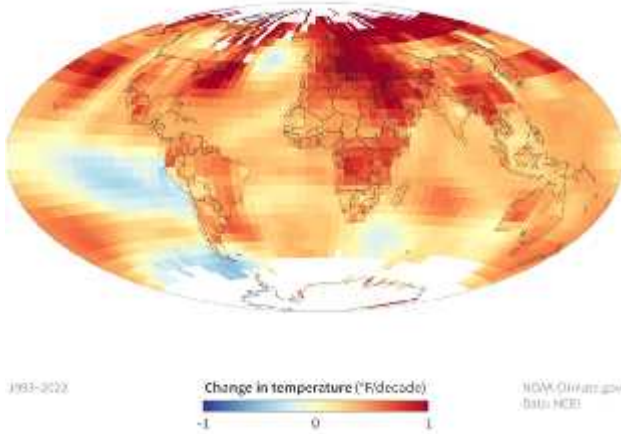


Figure 4: Recent Temperature Trends (1993-2022)  
 Source: [www.ncei.noaa.gov](http://www.ncei.noaa.gov)

It is more than 1.5 degrees Celsius than the pre-industrial era for the first time in history. These events have culminating effects on intense and long-lasting climatic changes in the future.

IV. FINDINGS AND DISCUSSION

B. Disrupted Weather Patterns

The atmosphere is the medium for air operations. Thus at the outset, favorable weather conditions have been a decisive factor for the safety and success of air operations. Weather Radars, autopilot systems, and many other systems are been developed through modern technology to conduct air operations amid adverse weather (Beckwith, 1971). Nevertheless, extreme weather conditions such as storms, hurricanes, volcanic eruptions, heat waves, different forms of heavy precipitation...etc are still posing significant disruptions for air operations (Gultepe et al., 2019).

One of the most striking manifestations of disrupted weather patterns is the increasing frequency and intensity of extreme weather events. Rising global temperatures create favorable conditions for the formation and intensification of hurricanes and tropical storms. Warmer ocean waters provide the energy necessary for these systems to grow stronger, resulting in more destructive storms with higher wind speeds and heavier rainfall (Wuebbles et al., 2014).

Global warming further leads to the exacerbation of heat waves. Heat waves are becoming more prolonged and intense, posing severe threats to humans, natural ecosystems and even man-made infrastructure. The combination of high temperatures and increased humidity creates a dangerous heat index, pushing the limits of human

tolerance beyond the red line (Delworth, Mahlman and Knutson, 1999). The impact on human performance, aircraft and associated equipment due to higher temperatures is discussed subsequently.

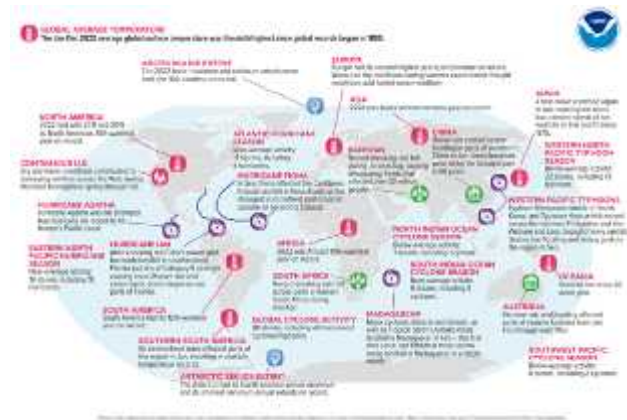


Figure 5: Selected Significant Climate Anomalies and Events in 2022  
 Source: [www.ncei.noaa.gov](http://www.ncei.noaa.gov)

C. Effects on Aircraft Performance

Global warming results in heating air than usual, which makes the air less dense causing numerous challenges to air operations. Mainly the effects of less dense air are twofold. On one hand, it affects the propulsion system. Air-breathing engine performance heavily depends on the quality of air it consumes (Wei et al., 2022). As per the gas laws, the density is proportional to pressure. Low pressure at the inlet results in low-pressure air at the combustion. With a drop in density and pressure, the partial pressure of oxygen also drops, which affects the fuel-air mixer adversely. All these phenomena are contributing to less efficient propulsion output (Whalley and Ebrahimi, 2002).

On the other hand, less dense air affects the aircraft's aerodynamic performance. Heavier than air machines are flown according to the laws of physics (Webster, 1920). There are several theories in combination that describes the principles of flight such as Bernoulli's theorem, Newton's laws, Circulation theory, Magnus effect, Momentum theory...etc. Qualities of air and aerodynamics form the cornerstone of almost all these theories. Less dense air creates low pressures than expected by the aerodynamics at respective places of the aircraft, thus adversely affecting the creation of lift (Grauer and Morelli, 2015). Pilots experience a significant drop in aircraft performance in terms of payload, maneuverability, rate of climb...etc as the atmospheric temperature rises.

In combination, under higher atmospheric temperatures the engine performance and aircraft performance

allows lesser payload, demand longer runway for take-off and landing (Coffel, Thompson and Horton, 2017; Zhou et al., 2018), truncate the operational range and endurance of the flight, restrict the maneuverability way below the full potential...etc (Sun et al., 2016). Even an increment of one degree of Celsius can significantly affect the aircraft performance as per the aircraft performance charts provided in flight/performance manuals.

During the gulf war, American aviators experienced a significant drop in their aircraft performance due to comparatively higher temperatures they were used to and as a result, they had to conduct more sorties than usual for airlift and strike. This is contributing to the vicious cycle of climate change speeding up by emitting more carbon and consuming more fossil fuels (Khordagui and Al-Ajmi, 1993). For usage in Africa and the Gulf region, the aircraft is specially designed to operate under higher atmospheric temperatures. What-so-ever done, their operational efficiency and performances are comparatively lesser than in colder regions.

### *D. Effects on Human Performance*

Human performance is greatly influenced by environmental factors, and one such factor that has a significant impact is temperature. Hyperthermia has adverse effects on human physiology, cognitive function, and physical performance (Turner, 2020). In general, the rise of the human body's core temperature beyond 38 degrees Celsius, forces the individual into hyperthermia region and if the core temperature rises beyond 41 degrees Celsius the probability of death due to hyperthermia sets in (Desforges and Simon, 1993). Of course, different individuals have different tolerances for these environmental factors. Usually, the aviators' ground working environment is tarmac, which is having higher temperatures compared to other ordinary working environments. The rise of temperature is, therefore, more phenomenal on air operators than that of other professions. Elevated temperatures affect various physiological processes in the human body. One of the most critical mechanisms is thermoregulation, which allows the body to maintain its core temperature within a narrow range. As ambient temperatures rise, the body must work harder to dissipate heat and prevent overheating (González-Alonso, 2012). This increased strain can lead to dehydration, heat exhaustion, and even heatstroke.

Dehydration negatively affects cognitive function and physical performance. When the body loses water through sweating, blood volume decreases, which reduces the delivery of oxygen and nutrients to the brain and muscles, consequently, cognitive abilities such as memory,

attention, and decision-making are impaired, leading to reduced productivity and increased errors (Cheuvront and Kenefick, 2014; Pross, 2017).

Furthermore, higher temperatures can affect sleep patterns, resulting in sleep deprivation. Sleep is essential for cognitive restoration and consolidation of memory. Sleep deprivation caused by excessive heat can further impair cognitive function and alertness, leading to decreased productivity and increased accidents (Pross, 2017).

In addition, hyperthermia has a detrimental effect on cognitive function. Heat stress can impair short-term memory, attention, and problem-solving abilities. In an environment with increased temperatures, individuals may experience difficulty in concentrating, reduced information processing speed, and diminished decision-making capabilities (Cheuvront and Kenefick, 2014). Such cognitive impairments can have significant consequences in various settings, including work, learning, and other cognitive-demanding activities.

Higher temperatures also impact physical performance. Heat stress increases the perceived effort during physical tasks, leading to decreased endurance and reduced strength and power output (Pontiggia et al., 1990). The body's natural response to heat is to divert blood flow to the skin for cooling purposes, which can compromise muscle perfusion and oxygen delivery. Exercise in hot environments can also lead to muscle fatigue and an increased risk of heat-related injuries, such as cramps, heat exhaustion, and heatstroke (Loeschcke and Sørensen, 2005). These conditions can be debilitating and, in severe cases, life-threatening.

All these conditions limit the full potential of a human being physically and psychologically. These conditions could be detrimental during a high-intensity air operational demand. Ground troops in far distances could be deprived of critical aerial support.

### *E. Sustainability of aircraft and associated equipment*

Aircraft and the associated equipment in air operations are delicate unless otherwise developed for specific robust conditions. Air assets and related ground equipment are usually stationed on the tarmac or inside a shelter (hangar/soft shelter/hardened shelter). All these places except the shelters with air conditioning will be subjected to a rise in temperature. The aircraft are usually designed to operate for decades than years. Avionics packages of modern aircraft are comparatively complex and mission-

critical. These systems contain electronic circuits, crystal liquid displays, and materials such as rubber, plastic fabrics...etc. When exposed to higher heat, these parts and materials start deforming more than usual (Kitto and Robertson, 1989). A higher number of avionics-related unserviceability in hotter regions are commonplace. In furtherance, deforming of materials such as rubber, plastic, and fabric due to higher heat could seriously truncate the usable life. For example, the life of a drag chute, in terms of the number of deployments, used to maximize aerodynamic braking in fighter platforms drastically reduces, when exposed to high heat during deployments. Wearing of tires would be pronounced under heated-up conditions. When the environment is more humid the conditions start to exacerbate. All the solutions other than parking/placing in an air-conditioned environment have not yielded effective results.

*F. Risk of Fire Hazards*

The fire triangle is fundamental in fire science, explaining three essential components for a fire to ignite and sustain. Namely, they are fuel, oxygen and heat. It is understood that there is a significant difference between flashpoints and autoignition points. Nevertheless, fire hazards increase with the rise of atmospheric temperature. However, the possibility of escalating a started fire under higher temperatures rises exponentially (Carnicer et al., 2022). The aviation environment itself is fire-prone, thus more emphasis to fire cover is given. The effectiveness of these fire extinguishing and control measures would be undermined by a significant rise in atmospheric temperatures.

*G. Rise of Sea Levels*

The rise of sea levels due to global warming is a critical consequence that poses significant threats to coastal regions and low-lying areas around the world. As the Earth's average temperature continues to increase, the polar ice caps and glaciers are melting at an accelerated rate, leading to the ingress of significant amounts of water into the oceans (Raper and Braithwaite, 2006).

The primary cause of rising sea levels is the expansion of seawater as it warms. This thermal expansion alone contributes to a portion of the sea level rise. However, the melting of land-based ice, particularly in Greenland and Antarctica, is the primary driver of the drastic increase in sea levels. These ice masses have been stable for centuries, but with global temperatures on the rise, they are melting at an alarming rate. The sheer volume of water released into the ocean exacerbates the problem, causing sea levels to steadily rise year after year (Raper and Braithwaite, 2006; Shukla, Verma and Misra, 2017).

Despite the serious consequences on the population living in coastal regions and coastal ecosystems in general, aviation has particular issues from this phenomenon. There are many airfields located in coastal areas, with marginal airfield elevation. The current rate of sea level rise is approximately  $3.4 \pm 0.4$  millimeters per year. Further, the rate itself has accelerated from 2.5 millimeters to 3.4 millimeters within the past three decades.

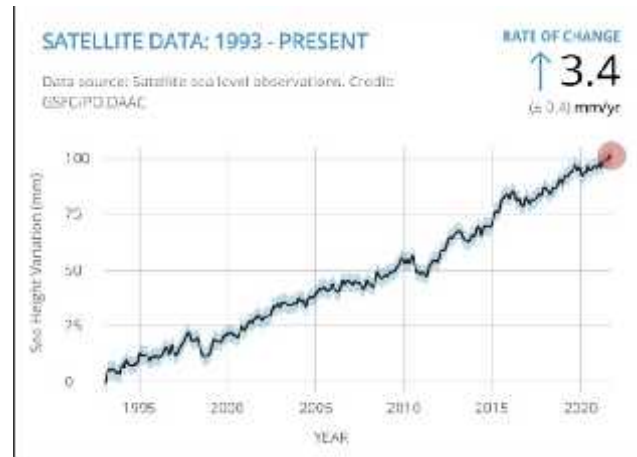


Figure 6: Rate of Sea Level Rise  
Source: [www.sealevel.nasa.gov](http://www.sealevel.nasa.gov)

For example in an island like Sri Lanka, 07 airfields including three out of four primary international airfields will be affected due to the rise of sea levels soon if the sea levels continue to rise. Loss of available infrastructure would seriously undermine the operational capacity. Relocating/rebuilding this infrastructure would incur exponential costs for the relevant authorities as well as consume a significant amount of time and effort to regain the operational status.

III. SOLUTIONS IN AVIATION FOR GLOBAL WARMING

As one of the most affected industries by climate change, air operators are compelled to find solutions for effective and efficient air operations amidst global warming. These solutions could be categorized as long-term and short-term. Short-term solutions are predominantly focused on how to retain efficiency and effectiveness under existing conditions with existing assets, while long-term solutions focus on how to reduce contribution to global warming in aviation as well as to design future temperature level compatible air assets.

*A. Short-term Solutions*

The changes in aviation demand a significant amount of time, effort, and money. As far as the aircraft performance is concerned, except for mission-critical operations, routine operations, training, and non-mission critical air operations could be planned during the time of favorable temperature

slots in diurnal temperature variation forecast reports. This practice has been already implemented by many air forces located in tropical and heated-up areas, especially during summer. The humidity levels are also to be a concern since the higher levels of humidity could produce the feel of a higher temperature than the actual. This step has been taken predominantly considering the human factor, which has more delicate and serious limitations than the machines. Keeping the people hydrated and continuous education regarding the adverse effects of higher temperatures would be beneficial to keep the physical and mental health of the air/ground crew unfavorable conditions for safe and efficient air operations. Heat acclimatization programs, where individuals gradually expose themselves to higher temperatures over time, can also improve tolerance and performance in hot conditions.

The sustainability of the air assets and associated equipment could be enhanced by restricting exposure to direct sunlight and higher temperatures during non-operational periods. Soft/hardened shelters and hangars are reasonable solutions for areas with moderately high-temperature regions. In furtherance, additional cooling/air conditioning systems are required for high-temperature regions. For example, the Gulf region operators have implanted air conditioning systems in aircraft hangars, with substantial capital and recurring cost.

The risk of fire hazards could be mitigated by implementing best fire preventive practices and introducing more effective fire extinguishing measures. Further, inculcating a developed fire safety culture among the crew would yield better results in the long run.

Unfortunately, there are no short-term solutions for addressing disruptive weather changes and the rise of sea levels. During unfavorable weather conditions, air operations should seize to ensure the safety of the crew and air assets.

*B. Long-term Solutions*

Responsibility for finding long-term solutions has been shouldered by key aviation industries as well as major global air forces. Moving towards renewable energies to power aircraft is still in the developing stage.

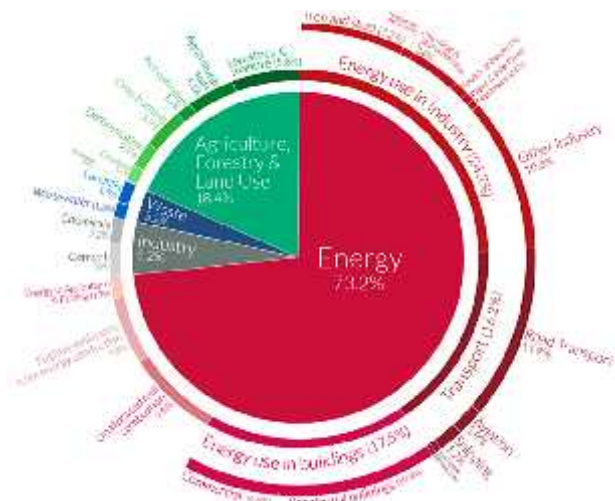


Figure 7: Global Greenhouse Gas Emissions By Sector- 2016

Source: [www.ourworldindata.org](http://www.ourworldindata.org)

Aviation accounts for 1.9 % of total greenhouse gas emissions as an industry. The movement towards renewable energies such as solar power could reduce the carbon footprint of the aviation industry.

Further, respective authorities could plan for the relocation of endangered airfields due to the sea level rising to viable locations. Gradual transition would permit controlled effort and cost, rather than sudden shifts.

VI. RECOMMENDATIONS

Based on the findings of the study following recommendations could be put forward to face the adverse consequences of climate change in general and global warming in particular on air operations.

*A. Encourage Global Level Discussions for Seeking Long-term Solutions*

As the consequences of climate change become more prominent, global leaders have taken the initiative to open up forums to discuss the future cause of actions to address climate change. Global Air Forces Climate Change Collaboration was held in London in line with a two days event of Global Air and Space Chief’s Conference 2022, where they pledged to commit to innovative solutions to reduce dependency on fossil fuels and carbon footprint, thus moving to sustainable and alternative sources of energy through sharing of expertise, best practices, resources and research capacities. This is the first of this kind of agreement among global-level military aviators. The forum could be expanded to accommodate the voices of developing and affected nations to have more productive sessions. Nevertheless, the forum is to be opened to

developing and affected nations to accommodate their experience and concerns.

### *B. Continue Research on Sustainable Solutions*

As agreed upon by the air chiefs of global air and space forces, research effort in finding solutions to this issue is of paramount importance. The seriousness of the issue demands serious attention for research. The technology could provide better solutions to reduce the dependency on fossil fuels and find sustainable alternatives. Already there are some studies, which have gone a reasonable distance in finding solar and battery-powered solutions. Additionally, improving aircraft designs and aerodynamics, optimizing flight routes, and implementing air traffic management systems can further enhance fuel efficiency and reduce carbon emissions. All these are time-consuming and resource-intensive efforts, where rich air forces could take the lead.

### *C. Develop a Combined Strategy*

As the impact of global warming is common to all stakeholders in varying degrees, the participation of all parties is required. Steps taken in isolation would not yield much results. Hence, a combined strategy could be developed to take a collective effort in battling the common cause. This strategy could include how each stakeholder can contribute within their capacities to optimize the output. Humankind has speeded up the vicious cycle of climate change in isolation, seeking development. Now it's time to get together and slow down the process to ensure livable conditions for the future.

## VII. CONCLUSION

Climate change has been accelerated due to man-made reasons collectively. Nevertheless, certain states, industries and regions have to pay more to the consequences of the same despite their degree of contribution. Conducting a postmortem to find out who is responsible more would not provide the answer to the existing issues. In contrast, a collective and collaborative effort would yield better results than working in isolation in this regard. Humans have already entered into the vicious cycle of climate change and inadequate measures to slow down would result in detrimental impacts on future generations. Dialogues for discussing the issues and finding solutions have already started, which is a very positive sign for future generations and particularly for the future sustainability of the aviation industry. The steps taken today would decide the fate of the aviation in future as well as it would slow down the global warming process and climate change.

## REFERENCES

- Beckwith, W. B., 1971: the effect of weather on the operations and economics of air transportation today. *Bull. Amer. Meteor. Soc.*, 52, 863–869, [https://doi.org/10.1175/1520-0477\(1971\)052<0863:TEOWOT>2.0.CO;2](https://doi.org/10.1175/1520-0477(1971)052<0863:TEOWOT>2.0.CO;2).
- Carnicer, J. et al. (2022) 'Global warming is shifting the relationships between fire weather and realized fire-induced CO<sub>2</sub> emissions in Europe', *Scientific Reports*, 12(1), p. 10365. Available at: <https://doi.org/10.1038/s41598-022-14480-8>.
- Cheuvront, S.N. and Kenefick, R.W. (2014) 'Dehydration: Physiology, Assessment, and Performance Effects', in *Comprehensive Physiology*. Wiley, pp. 257–285. Available at: <https://doi.org/10.1002/cphy.c130017>.
- Coffel, E.D., Thompson, T.R. and Horton, R.M. (2017) 'The impacts of rising temperatures on aircraft takeoff performance', *Climatic Change*, 144(2), pp. 381–388. Available at: <https://doi.org/10.1007/s10584-017-2018-9>.
- Delworth, T.L., Mahlman, J.D. and Knutson, T.R. (1999) 'Changes in Heat Index Associated with CO<sub>2</sub>-Induced Global Warming', *Climatic Change*, 43(2), pp. 369–386. Available at: <https://doi.org/10.1023/A:1005463917086>.
- Desforges, J.F. and Simon, H.B. (1993) 'Hyperthermia', *New England Journal of Medicine*, 329(7), pp. 483–487. Available at: <https://doi.org/10.1056/NEJM199308123290708>.
- González-Alonso, J. (2012) 'Human thermoregulation and the cardiovascular system', *Experimental Physiology*, 97(3), pp. 340–346. Available at: <https://doi.org/10.1113/expphysiol.2011.058701>.
- Grauer, J.A. and Morelli, E.A. (2015) 'Generic Global Aerodynamic Model for Aircraft', *Journal of Aircraft*, 52(1), pp. 13–20. Available at: <https://doi.org/10.2514/1.C032888>.
- Gultepe, I. et al. (2019) 'A Review of High Impact Weather for Aviation Meteorology', *Pure and Applied Geophysics*, 176(5), pp. 1869–1921. Available at: <https://doi.org/10.1007/s00024-019-02168-6>.

- Kerr, R.A. (2007) 'Global Warming Is Changing the World', *Science*, 316(5822), pp. 188–190. Available at: <https://doi.org/10.1126/science.316.5822.188>.
- Khordagui, H. and Al-Ajmi, D. (1993) 'Environmental impact of the Gulf War: An integrated preliminary assessment', *Environmental Management*, 17(4), pp. 557–562. Available at: <https://doi.org/10.1007/BF02394670>.
- Kitto, J.B. and Robertson, J.M. (1989) 'Effects of Maldistribution of Flow on Heat Transfer Equipment Performance', *Heat Transfer Engineering*, 10(1), pp. 18–25. Available at: <https://doi.org/10.1080/01457638908939688>.
- Loeschcke, V. and Sørensen, J.G. (2005) 'Acclimation, heat shock and hardening—a response from evolutionary biology', *Journal of Thermal Biology*, 30(3), pp. 255–257. Available at: <https://doi.org/10.1016/j.jtherbio.2004.12.005>.
- Masson-Delmotte, V., Zhai, P., Pörtner, H.O., Roberts, D., Skea, J., Shukla, P.R., Pirani, A., Moufouma-Okia, W., Péan, C., Pidcock, R. and Connors, S., 2018. Global warming of 1.5 C. *An IPCC Special Report on the impacts of global warming of, 1(5)*, pp.43-50.
- Pontiggia, P. *et al.* (1990) 'The Biological Responses to Heat', in, pp. 271–291. Available at: [https://doi.org/10.1007/978-1-4684-5766-7\\_26](https://doi.org/10.1007/978-1-4684-5766-7_26).
- Pross, N. (2017) 'Effects of Dehydration on Brain Functioning: A Life-Span Perspective', *Annals of Nutrition and Metabolism*, 70(Suppl. 1), pp. 30–36. Available at: <https://doi.org/10.1159/000463060>.
- Raper, S.C.B. and Braithwaite, R.J. (2006) 'Low sea level rise projections from mountain glaciers and icecaps under global warming', *Nature*, 439(7074), pp. 311–313. Available at: <https://doi.org/10.1038/nature04448>.
- Shukla, J.B., Verma, M. and Misra, A.K. (2017) 'Effect of global warming on sea level rise: A modeling study', *Ecological Complexity*, 32, pp. 99–110. Available at: <https://doi.org/10.1016/j.ecocom.2017.10.007>.
- SLAF (no date) *Sri Lanka Air Force : Guardians of the Skies*, [www.airforce.lk](http://www.airforce.lk). Available at: Journal of Experimental Biology [Preprint]. Available at: <https://doi.org/10.1242/jeb.142216>.
- Turner, J.M. (2020) 'Facultative hyperthermia during a heatwave delays injurious dehydration of an arboreal marsupial', *Journal of Experimental Biology* [Preprint]. Available at: <https://doi.org/10.1242/jeb.219378>.
- Webster, D.L. (1920) 'THE PHYSICS OF FLIGHT', *Journal The Franklin Institute Devoted to Science and the Mechanic Arts*, 189(5), pp. 553–580.
- [https://www.airforce.lk/image\\_gallery.php](https://www.airforce.lk/image_gallery.php) (Accessed: 2 July 2022).
- Sun, Y.-F. *et al.* (2016) 'Flying high: Limits to flight performance by sparrows on the Qinghai-Tibet Plateau',
- Wei, X. *et al.* (2022) 'Thermodynamic analysis of key parameters on the performance of air breathing pre-cooled engine', *Applied Thermal Engineering*, 201, p. 117733. Available at: <https://doi.org/10.1016/j.applthermaleng.2021.117733>.
- Whalley, R. and Ebrahimi, M. (2002) 'Gas Turbine Propulsion Plant Control', *Naval Engineers Journal*, 114(4), pp. 77–94. Available at: <https://doi.org/10.1111/j.1559-3584.2002.tb00173.x>.
- Wuebbles, D.J. *et al.* (2014) 'Severe Weather in United States Under a Changing Climate', *Eos, Transactions American Geophysical Union*, 95(18), pp. 149–150. Available at: <https://doi.org/10.1002/2014EO180001>.
- Zandalinas, S.I., Fritschi, F.B. and Mittler, R. (2021) 'Global Warming, Climate Change, and Environmental Pollution: Recipe for a Multifactorial Stress Combination Disaster', *Trends in Plant Science*, 26(6), pp. 588–599. Available at: <https://doi.org/10.1016/j.tplants.2021.02.011>.
- Zhou, Y. *et al.* (2018) 'Decreased takeoff performance of aircraft due to climate change', *Climatic Change*, 151(3–4), pp. 463–472. Available at: <https://doi.org/10.1007/s10584-018-2335-7>.

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# An Investigative Study on the Recent Geopolitical Tension in the Indian Ocean Region; With Special Reference to String of Pearls & Necklace of Diamond Strategies

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**Abstract**— This paper examines whether India's necklace of diamond strategy has been successful to counter China's string of pearls strategy in the Indian Ocean region. China's string of pearls strategy ensures establishing maritime bases in Sri Lanka, Maldives, Pakistan, Bangladesh, and Djibouti to enhance its influence and military network. India argues that China is trying to surround itself with a network of dual-use port facilities in the Indian Ocean, the main concern here is Defence and Energy security. China is even affiliated with Afghanistan, Ukraine, Yemen, and Iraq, all currently splintered by conflict. However, in this geopolitical crisis between China and India, it is possible to identify how successful their strategies have been. Accordingly, the Indian Ocean region is more important than choosing any other region. This is qualitative research based on descriptive analysis. Here information is obtained through secondary data and information is obtained through research papers and articles conducted in this regard. And also maps are used to study the geographical distribution. According to the analysis, it can be concluded that India has managed to exert a significant influence on China through its Necklace of Diamonds. It can be concluded that India is making many efforts that are not second to China. Accordingly, it is clear that India has achieved some success in implementing its strategy through the Necklace of Diamond.

**Keywords**—Indian Ocean region, Necklace of Diamonds, String of Pearls

## I. INTRODUCTION

'Whoever controls the Indian Ocean dominates Asia. This ocean is the key to the seven seas' (Mahan, The Indian Ocean In World Politics: Reflections On Its Future By Prasanta Sen Gupta, 1987). China and India, which are Asia's two rising powers, aim to dominate this region of water to satisfy their regional and global ambitions. Both states have intentions to increase their strategic influence to secure and challenge their competitors. (Jahanzaib Mengal, 2022) Strategically, China is consolidating its power through the "String of Pearls policy" and India is consolidating its power through the "Necklace of Diamonds" concept. China is encircling India through the String of Pearls, the Debt Trap, CPEC, and the Belt and Road Initiative. China is attempting to invade the Andaman Sea and gain control of some portions of the Indian Ocean, which is causing tensions between the countries. China is

increasing its presence in the Indian Ocean over the past few years through its Debt Trap Diplomacy and Strings of Pearls strategy to contain Indian hold in the Indian Ocean. In a counter-action, India has started working on the 'Necklace of Diamonds' strategy. This strategy aims at garlanding China or in simple words, the counter encirclement strategy. India is expanding its naval bases and is also improving relations with strategically placed countries to counter China's strategies. India, Japan, and the United States have signed a deal to resist China's dominance in the Indo-Pacific area. India has also launched a new tri-service using the Andaman and Nicobar Islands, where China is attempting to establish its concentration.

However, In contrast to China's string of pearls policy, India is already using the necklace of diamond strategy. But there is a problem with whether the strategies taken by India through the Necklace of Diamonds have been successful in establishing power in the Indian Ocean. It is a current need to study whether India's necklace of diamond strategy succeeds or fails to fight China's String of Pearls policy.

## II. PROBLEM STATEMENT

There is an eternal link between the ocean and man. This relationship is seen in various forms, commercial, economic and political. Here, the political activity regarding the ocean became directly affected with the recognition of ocean power in the nineteenth century. China and India can be mentioned as two countries that have worked very well in establishing ocean power. Accordingly, at present, it is known to the whole world that China is working to establish its maritime power through "String of pearls policy" and India is working to establish its maritime power through "Necklace of Diamond". It is clear that India is very keen to suppress China's power through certain strategies. But the aim here is to study whether those strategies are able to suppress China's power. Accordingly, "Whether the India's necklace of diamond strategy has been successful to counter the China's string of pearls strategic in the Indian ocean region?" is the main research problem. It is clear that India is very keen to suppress China's power through certain



strategies. But the aim here is to study whether those strategies are able to suppress China's power. Accordingly, **"Whether the India's necklace of diamond strategy has been successful to counter the China's string of pearls strategic in the Indian ocean region?"** is the main research problem.

### III. OBJECTIVES OF THE RESEARCH

The main objective of the research is to examine whether India's necklace of diamond strategy has been successful to counter China's string of pearls strategic in the Indian Ocean region.

### IV. LITERATURE REVIEW

Defining geopolitical strategy is a complicated synthesis of a multidisciplinary approach, taking into account political science, economics, history, and geographical situation. Politics is more significant in geopolitics than geo (space), because politics precedes that mutual relationship. Geopolitical analyses and projections inform state policy in the form of strategy and real actions. Geopolitics aims to provide answers to two key questions: what will happen and what to do? Often, for the purposes of geopolitical goals, there are abusing terms such as: "natural boundaries", "historical right", "living space", "limited sovereignty", "export of democracy", "preventive war", "human rights protection" etc." (Kovacevic, 2005) The West's global political, military, economic, and cultural superiority stretches back to the age of maritime conquests around the end of the 15th century. For centuries, the West has imposed worldwide dominance through conquest of rich colonies and economic progress. The state must expand its area in order to live and survive. As the state expands, it tends to take up the essential living space ("lebensraum"). Lebensraum is a concept that defined Nazi Germany's primary goal for territorial aggression. Adolf Hitler detailed in his book "Mein Kampf" his belief that the German people required lebensraum land and raw materials for a Greater Germany - and that this could only be found in the East. The Nazi strategy of slaughter, expulsion, "Germanization," and enslavement of the Slavic people, and eventual colonization of the territory by genetically pure German people, carried out these intentions. Karl Haushofer defined geopolitics as the science of the spatial dependency of political events. He predicted future global organization, splitting the world into three pan-areas: Pan-America, where the United States would dominate, Pan-Europe, where Germany would dominate, and Pan-Asia, where Japan would dominate. The Anglo-American school of geopolitics refers to lessons on land dominance or the advantage of naval power (Haushofer, 2007).

As mentioned above, World War II, Cold War, and Post-Cold War had in the world. There were conflicts between powerful countries to consolidate power geopolitically. Also, the invasion of weak states by strong

states also happened as a result of consolidating this power. However, when we move to the Asian region, the two countries that are important in studying these geopolitical crises in Asian countries are India and China. It is confirmed in the literature investigation that China has used the string of pearls policy and India has used the Necklace of Diamond strategy to consolidate its power in the Indian Ocean region. India has been making a "Necklace of Diamonds" to counter the "String of Pearls" created by China. Sri Lanka, Maldives, Pakistan, Asian countries, and Somalia are a number of the countries wherever China is establishing maritime bases as a "String of Pearls" to boost its influence and military networks. (Sumanta Bhattacharya, 2021). India is also attempting something similar to offset China's string of pearls. India has built the Necklace of Diamonds and is suing other countries' ports to assist India battle China. Changi Naval Base in Singapore, Chabahar Port in Iran, Assumption Islands in Seychelles, Sabang Port in Indonesia, and Duqm Port in Oman make up the Necklace.. However, over the years, India has worked to upgrade its navy and maritime policy in order to counterbalance China's String of Pearls plan (A.J.Scott, 2006). Under the Modi administration, India has openly supported the Indian Ocean, Look East Policy, as its backyard, and has worked to strengthen its long-standing relationships with littoral states as well as strategic collaborations with major littoral countries Iran, Pakistan, and Bangladesh. Between 1995 and 2005, China's In 2011, India's previous foreign secretary coined the term "Necklace of Diamonds" for the first time. This approach intends to resist and counterbalance China's growing assertiveness, as well as its construction of ports and other infrastructure projects with IOR littoral states, which are viewed as a direct threat and 'encirclement' of India in its immediate neighborhood (Ramachandran, 2017) consumption for crude oil more than doubled (Kaplan, 2009), and this trend is expected to continue for the next twenty years. China imports 10 million barrels of crude oil per day on average, with a peak of 12 million barrels per day (Collins, 2016). In terms of security and regional goals, India is likewise trailing China. India is already expanding its trade connections and economic activity in the IOR in order to preserve its interests and expand its influence (Kaplan, 2009). Despite the fact that India and China do not acknowledge the existence of a strategic rivalry or competition in the Indian Ocean, their activities and attitudes do. Booz Allen initially used the phrase "String of Pearls" in his 2005 paper titled "Energy Futures in Asia." Booz anticipated Chinese naval expansion by constructing infrastructure projects and making various investments in Asian littoral states to bolster its naval dominance in IOR. However, Booz's analysis has been used as an analytical tool to analyze and explain China's evolving interests and assertiveness (China's desire to install military bases and intelligence stations) in South

Asian littoral regions over the years. China has built tighter and more diplomatic contacts with the Indian Ocean Region's coastal states over the years in order to increase its naval might. The 'String of Pearls' is primarily put forth by Shiv Shankar Menon in his book "Choices in the making intended to increase China's economic, political, and diplomatic weight in the world. India is doing all possible to safeguard its interests. India's Diamond Necklace was created to rival China's Pearl String. However, there have been several strategy obstacles in its successful implementation, since China has increased its economic relations with about 90% of the world's countries, providing financial aid to the majority of countries, including terrorist-run countries. China's One Belt, One Road Initiative is regarded as the world's most risky financial project. (Biswas, 2022). It shows that China is at risk. However, India is increasing its relation with many countries like Japan, US, Sri Lanka to counter the China influence in the Asia region and especially in the Indian Ocean region, it has also adopted the Act East policy to gather more support against China, after the South China Sea conflict, most of the Asian countries are supporting India. (Biswas, 2022). "Crisis in India-China relations has best been managed, but not resolved". of India's Foreign Policy" (Menon, 2016). A study of literary sources will confirm that much research has been done on this struggle between China and India. But it is clear that whether India's diamond chain strategy has been more successful than China's string of pearls policy in consolidating its power, especially in the Indian Ocean region, has not been widely studied.

## V. METHODOLOGY

In this study "Indian Ocean Region" is selected as the study area. That is because both China and India are working to establish the power of the ocean, which includes the Indian Ocean region.



Figure 1.1: China's String of pearls policy Source: <https://www.google.com/>, (2023)



Figure 1.2 : Necklace of Diamond Source: <https://www.google.com/>, (2023)

This research based on qualitative data and the analysis that data according to the descriptive method. Secondary data obtained from published sources like various books, international journals newspapers, articles, magazines, and websites on the internet, have formed an important component of this study and provide a foundation to it.

## VI. DATA ANALYSIS & DISCUSSION

The String of Pearls is a strategy deployed by China, by building a network of commercial and military bases and ports in many countries. This strategy has been deployed by China to protect its trade interests, as a major chunk of its trade passes through the Indian Ocean and various choke points like Strait of Hormuz, Strait of Malacca and Lombok Strait (Jha, 2022). To resolve the 'Malacca Dilemma' Chinese President Hu Jintao, in 2004, stretched out the strategy of a "new historic mission" that necessitated Chinese marine forces to be placed in offshore waters for major military tasks. It signified China's determination of building a naval presence in the Indian Ocean. Ever since, China has embarked to expand its naval presence in Indian Ocean Region by linking a 'patronage of network' together in the Indian Ocean littoral states (Kostecka, 2011). In its Maritime Silk Road Initiative, China has begun a project of port development and diplomatic support in littoral states such as Pakistan, Bangladesh, and Sri Lanka, all of which has harmed India's strategic interests and raised concern about encirclement in the Indian Ocean.

According to Yash Jha (2022) there three main Impact of String of Pearls on India. First one is It endangers Indian maritime security. China is developing more firepower with more submarines, destroyers, vessels, and ships. Their presence will pose a threat to India's security through the water. Second one is impact on the Indian economy Indian resources will be diverted towards defense and security. Thus, the economy will not reach its potential, hampering economic growth. This may further lead to instability in India and the whole east and southeast region.

And third one is the strategic clout of India which it enjoys today in the Indian ocean will be reduced. China doesn't have any openings in the Indian ocean, the Strings of pearls will lead to China surrounding India and it will be able to dominate it. Countries that today consider India as a partner in response to China may end up in the lap of China. Booz Allen initially used the phrase "String of Pearls" in his 2005 paper titled "Energy Futures in Asia." Booz anticipated Chinese naval expansion by constructing infrastructure projects and making various investments in Asian littoral states to bolster its naval dominance in IOR. However, Booz's analysis has been used as an analytical tool to analyze and explain China's evolving interests and assertiveness (China's desire to install military bases and intelligence stations) in South Asian littoral regions over the years. China has built tighter and more diplomatic contacts with the Indian Ocean Region's coastal states over the years in order to increase its naval might. The 'String of Pearls' is primarily intended to increase China's economic, political, and diplomatic weight in the world. According to Lanteigne (2008), China has geo-strategic interests and concerns in the Indian Ocean to protect its trade and sea line of communication (SLOC). Its significant apprehension in the Indian Ocean is to protect the maritime trade routes from where the oil and gas supplies pass which the Chinese economy depends upon. Beijing is cognizant of potential dangers from different state-actors and non-state actors through the straits from where its maritime trade passes. Approximately forty percent of China's oil imports pass through the 'Hormuz chokepoint', at the gateway of the Persian Gulf, and around eighty-two percent of oil traverse the Malacca Strait. This 'Strait' indicates China's 'Malacca Dilemma'. Chinese strategists and policymakers are apprehensive that in case of a war any adversary might be inveigled to interdict the Chinese maritime trade from the Malacca chokepoint. Accordingly, it seems that there are several reasons why China is anxious to consolidate its power in the Indian Ocean region through the String of pearls policy. But this is a threat to India. It is disturbing the freedom of India. Indian thinkers regard the Indian Ocean Region as India's backyard and natural region of influence (Brewster, 2010). It is also believed that India, in this region, serves as the ultimate leader and has the greatest influence over the single most ocean or region in the globe named after the country (Brewster D. , 2018). According to Indian thinking, this area of the ocean (Indian Ocean) is 'India's Ocean' (A.J.Scott, 2006).

Since independence, Indian officials and thinkers have identified the development of complete sovereignty over the subsequently named ocean as the country's "manifest destiny." Over the years, Indian maritime strategists have failed to recognize India's oceanic dominance (Chaudhuri, 2015). However, in recent years, the emphasis of marine thinking has evolved to provide the

country with a mental map' with a larger emphasis on maritime precedence with primary concern on Indian oceanic trade, protection of Economic Exclusive Zones (EEZ), and extension of Indian strategic depth in the IOR. Apart from its geostrategic significance, the Indian Ocean is also important to India in terms of energy security. Oil demand has risen in the country, as it has in China, in tandem with its increasing economy and population. India began the Necklace of Diamonds balancing strategy. According to Ramachandran (2007), this approach intends to resist and counterbalance China's growing aggressiveness, as well as its construction of ports and other infrastructure projects with IOR littoral states, which are viewed as a direct threat and 'encirclement' of India in its immediate neighborhood. However, over the years, India has worked to upgrade its navy and maritime policy in order to counterbalance China's String of Pearls plan (A.J.Scott, 2006). According to Brewster (2018), India has actively supported the Indian Ocean, Look East Policy, as its backyard under the Modi administration, and has taken steps to strengthen its long-standing relationships with littoral states and critical partners. India benefits from its geographical location and pivotal location in the Indian Ocean.

Strategic consolidation has become a recurring subject in marine waters between India and China in recent years. The deployment of navy and maritime competition by India and China flecks the water from the northern section of the Indian Ocean to the western half of this ocean. (Brewster D. , 2018) India and China's Marine Dynamics Conflict and antagonism between India and China have stayed on land for decades. As India and China have opened their doors to global markets and commerce, their economies have grown enormously, compelling them to focus on marine trade and commerce. In this way they are trying to establish maritime power because all things like trade and control will be easier. It is important to establish the power of the Indian Ocean.

## VII. CONCLUSION

India is using a multi-pronged strategy to counter the Chinese String of Pearls Strategy. India is doing all possible to safeguard its interests. However, there have been numerous strategy obstacles in its successful implementation. China's One Belt, One Road Initiative is regarded as the world's most risky financial project. However, India is expanding its relations with many countries such as Japan, the United States, and Sri Lanka in order to counter China's influence in the Asia region, particularly in the Indian Ocean region. Although the Necklace of Diamond strategy was implemented before China's String of Pearls policy, it is clear that Accordingly, it is clear that strategically both countries are competing

side by side. Both countries' strategies are becoming challenges for both countries from time to time. According to the data analysis, it is clear that India has achieved some success in implementing its strategy through the Necklace of Diamond.

#### REFERENCES

1. A.J.Scott. (2006). Creative cities: Conceptual issues and policy questions. *Journal of Urban Affairs*, 28. doi:<https://escholarship.org/uc/item/77m9g2g6>
2. Biswas, B. (2022). India's Necklace of Diamonds as a Counter Strategy to the Chinese String of Pearls: Comparative Analysis. *2022 IJRTI*, 7(10). Retrieved June 09, 2023
3. Brewster, D. (2010). An Indian Sphere of Influence in the Indian Ocean? *Security Challenges*. 6(3), 1-20. Retrieved June 16, 2023
4. Chaudhuri, P. P. (2015, January 10). Churning of the Indian Ocean. Retrieved June 16, 2023, from [https://www.academia.edu/11091280/Churning\\_of\\_the\\_Indian\\_Ocean\\_Hindustan\\_Times\\_review\\_of\\_India\\_as\\_Ocean](https://www.academia.edu/11091280/Churning_of_the_Indian_Ocean_Hindustan_Times_review_of_India_as_Ocean)
5. Haushofer, K. (2007). Knowledge of expansion on the geopolitics of Karl Haushofer. *Geo Politics*, 4(3). Retrieved June 12, 2023, from <https://www.tandfonline.com/doi/abs/10.1080/14650049908407660>
6. Jahanzaib Mengal, M. N. (2022). STRING OF PEARLS AND NECKLACE OF DIAMONDS:SINO-INDIAN GEO-STRATEGIC COMPETITION IN THE INDIAN OCEAN. *Asia Pacific*, 2022, 40. Retrieved June 13, 2023
7. Jha, Y. (2022, June 23). Necklace of diamonds vs string of pearls : India-China standoff. Redears' Blog. Retrieved June 14, 2023, from <https://timesofindia.indiatimes.com/readersblog/youth-writes/necklace-of-diamonds-vs-string-of-pearls-india-china-standoff-43458/>
8. Kaplan, R. D. (2009, April/March). Center Stage for the 21st Century. *Foreign Affairs*. Retrieved June 13, 2023, from <https://www.foreignaffairs.com/>
9. Kostecka, D. J. (2011). PLACES AND BASES: The Chinese Navy's Emerging Support Network in the Indian Ocean. *Naval War College Review*, 64, 59-78. Retrieved June 15, 2023
10. Kovacevic, A. (2005, June 08). Boundary adaptation in grid generation for CFD analysis of screw compressors. *International Journal for a Numerical Methods in Engineering*, 64(3), 401-426. doi: <https://doi.org/10.1002/nme.1376>
11. Mahan, A. (1987, July). The Indian Ocean In World Politics: Reflections On Its Future By Prasanta Sen Gupta. *Journal of International Affairs*, 43(3/4). Retrieved June 11, 2023, from <https://journals.sagepub.com/doi/abs/10.1177/097492848704300301>
12. Menon, S. (2016). Choices: Inside the Making of India's Foreign Policy. 103-105. Retrieved June 10, 2023
13. Ramachandran, V. (2017, April 14). Redefining China's Xinjiang policy: Rhetoric or reality? *Sage Journals*, 20(3). doi:<https://doi.org/10.1177/2233865917703904>. Retrieved June 17, 2023.
14. Sumanta Bhattacharya, J. K. (2021, November). Can India's Necklace of Diamonds Strategy Defeat the China's String of Pearls. *International Journal of Recent Advances in Multidisciplinary Topics*, 2(11). Retrieved June 14, 2022

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# Changing Threat Dimensions; Preventing Extremism in The Digital Age

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**Abstract-** *Extremism poses a persistent and significant threat to the stability of a nation. It is a complex psychological phenomenon that gradually leads to tangible actions, extending beyond its narrow military aspects. Countering extremism in the present digital era requires innovative strategies to effectively address and prevent it within the changing digital landscape. Therefore, this research aims to explore the intricate relationship between extremism and its implications for national security in the digital sphere. Sri Lanka's historical experiences with extremism, both before and after digitalization, add unique dimensions to this examination. Understanding how the digital age has become a fertile ground for disseminating and amplifying extremist ideologies is crucial for formulating effective countermeasures. Leveraging the digital space to counteract and prevent extremism warrants exploration. Using a qualitative methodology, this study will investigate the evolving threat landscape through various analysis techniques. By shedding light on these changes, it seeks to uncover the complexities associated with preventing extremism in the digital age. The findings will inform recommendations to reduce its impact.*

**Keywords-** *Digital space, Extremism, Security, Sri Lanka*

## I. INTRODUCTION

The advent of the digital age has brought about significant transformations in societal structures and communication patterns. However, along with these advancements, new challenges have occurred in the realm of security. One pressing concern that necessitates immediate attention is the prevention of extremism in the digital age. The digital age refers to a time characterized by the widespread use of digital technologies like computers, the internet, and other digital communication tools. It has brought significant changes to how information is accessed, shared, and processed. Extremism, characterized by radical ideologies and the adoption of extreme measures to achieve ideological objectives, has found a fertile breeding ground in the digital environment. Online platforms have become instrumental in the dissemination of extremist content, recruitment of susceptible individuals, and the facilitation of extremist activities. As per, the Centre for Policy Alternatives (2021), the term "Violent Extremism" (VE) gained widespread recognition among analysts and development agencies worldwide following the events of 9/11. The reason behind its prominence was the realization that the approach of the United States and its allies, primarily focused on security concerns, proved ineffective in addressing the underlying causes of the issue. According

to the Centre for Policy Alternatives (2021), the definition proposed by USAID, which is widely utilized, defines violent extremism as the endorsement, participation in, preparation for, or support of violence driven or justified by ideology to advance social, economic, or political objectives. Essentially, it pertains to violence that is justified through a rigid ideology as the exclusive means of attaining specific social, economic, and political aims. Nevertheless, establishing a clear understanding of extremism can be problematic due to varying interpretations among individuals.

Within this context, two essential characteristics of violent extremism have been identified. Firstly, it involves exalting one's group or faith while being deeply concerned with the challenges it confronts. Secondly, it encompasses the rejection of diversity and the concept of an inclusive society. These intrinsic attributes of violent extremism underscore its deviation from democratic principles, including the acceptance of diversity and the upholding of universal human rights. Addressing this issue requires a comprehensive understanding of the complexities surrounding extremism in the digital age and the development of effective strategies to counter its proliferation. This paper highlights the urgency of preventing extremism in the digital age. The digital revolution has provided extremists with unprecedented opportunities, necessitating a comprehensive understanding of the evolving threat landscape. By critically examining the challenges and opportunities associated with preventing extremism in the digital space, this research aims to contribute to the development of effective strategies that safeguard security interests while upholding individual rights in the digital era.

## II. LITERATURE REVIEW

As mentioned by (Zeiger & Gyte), "The global reach of these online platforms has allowed terrorist networks to merge and spread across national boundaries, cultures, and languages. This has resulted in the formation of global coalitions among previously separate terrorist organizations, a phenomenon that the researcher fully agrees with the author on. A notable example is the pledging of allegiance (bayat) to Abu Bakr al-Baghdadi, the leader of ISIS. Due to geographic and security constraints, traditional methods of expressing loyalty in person were impractical, prompting the utilization of social media as an alternative approach. The Researcher concur that this shift towards online platforms has been particularly evident in Southeast Asia, where various terrorist groups in the Philippines and

Indonesia, such as Maute, Abu Sayyaf, Katibat Ansar al-Sharia, and Mujahidin Indonesian Timor, have pledged their allegiances via online videos. The acceptance and recognition of these pledges have also been released through online video platforms, reinforcing the researcher's agreement with the author's perspective on the role of social media in facilitating and documenting these alliances."

(Evans & Williams, 2022) state that the internet's unique characteristics contribute to individual radicalization, a point supported by the researcher. Virtual echo chambers immerse users in inhomogeneous media environments, reinforcing the tendency to seek like-minded individuals and affirming information. Algorithmic systems, as identified by the researcher, customize information presentation based on user preferences. Within these echo chambers, interaction plays a significant role in radicalization. Users engage with extremist content and like-minded peers, fostering an environment conducive to radicalization. The researcher's analysis highlights the importance of understanding these dynamics for effective counter-radicalization strategies. The internet's influence on individual beliefs and behaviour, as explored by the researcher, is a topic of concern.

The same authors go on to mention that Efforts to disrupt online extremism and prevent the indoctrination of individuals have been undertaken by various governmental, educational, and civil sector entities. These initiatives involve the use of automated tools to identify and remove violent, hateful, or harmful content, aiming to inhibit its spread online. The researcher agrees with the author's viewpoint and emphasizes the significance of these measures. Tech companies have implemented advanced algorithms and collaborations with law enforcement agencies to swiftly remove extremist content from their platforms. Governments have also introduced regulatory frameworks to ensure accountability and responsible content moderation. Educational initiatives promote digital literacy and critical thinking skills, while civil society organizations foster dialogue and peace-building efforts. Collectively, these actions demonstrate a commitment to combatting online extremism. While challenges persist, stakeholders are dedicated to creating a safer online environment. The literature reflects consensus on the importance of collaborative approaches, automated content moderation, educational programs, and civil society engagement in countering radicalization online. The researcher supports these strategies and emphasizes their role in curbing the spread of extremist ideologies in the digital realm.

### III. METHODOLOGY

The research methodology employed in this paper aims to effectively address and prevent extremism in the dynamic digital age. It utilizes a qualitative approach, focusing on non-numerical data and avoiding statistical

conclusions. Both primary and secondary sources are utilized for data collection and analysis. Secondary data sources, such as scholarly articles, books, reports, and literature, are analyzed to support the research objectives. This analysis helps identify patterns and gaps in knowledge related to extremism in the digital age. Throughout the research, various examples and case studies are incorporated to illustrate and validate the findings. These examples substantiate statements and arguments, providing practicality and relevance to the analysis. Real-world instances are examined to shed light on effective strategies and approaches for countering and preventing extremism in the digital landscape.

## IV. ANALYSIS AND DISCUSSION

### A. *Extremism and National Security*

Scholars have presented various interpretations and definitions of the term "extremism," influenced by societal norms, cultural values, religious beliefs, and gender perspectives. Consequently, the understanding of extremism may differ among individuals, posing inherent challenges in addressing this phenomenon. It is crucial, therefore, to examine existing definitions of extremism, including its association with violent extremism, to develop a comprehensive understanding. As stated by the Danish government, "Extremism refers to individuals or groups that commit or seek to legitimize violence or other illegal acts, based on societal conditions they disagree with. This term encompasses various forms such as left-wing extremism, right-wing extremism, and Islamist extremism" (Schmid, n.d.). Likewise, J.M. Berge describes extremism as the belief that an in-group's success or survival necessitates hostile actions against an out-group, which can range from verbal attacks and discrimination to violence and even genocide (Schmid, n.d.). The notion of violent extremism, according to Berge, involves the belief that violent action is indispensable for an in-group's success or survival, whether defensive, offensive, or pre-emptive. In line with the Federal Bureau of Investigation's definition, violent extremism is characterized as "encouraging, condoning, justifying, or supporting the commission of a violent act to achieve political, ideological, religious, social, or economic goals" (LaFree and Freilich, 2019). These definitions highlight the diverse motivations behind individuals' engagement in extremist activities, often resorting to violence, which is considered illegitimate.

Extremism, including violent extremism, poses a significant threat to national security for several reasons. It disrupts social order, harmony, tranquillity, social cohesion, community engagement, and stability. It undermines the rule of law and freedom of expression. Extremist ideologies can lead to the radicalization of individuals, making them vulnerable to recruitment by terrorist organizations. These organizations exploit the isolation and exclusivity

experienced by extremists, offering them a sense of belonging and purpose in exchange. Consequently, extremist acts give rise to terrorism, impacting both individuals and the state, with military and non-military implications. Moreover, extremism fosters discrimination within society, contributing to polarization along ethnic, religious, or political lines. Violent extremists advocate for separatism, which poses a threat to the territorial integrity of nations. Additionally, the transnational nature of extremism, violent extremism, and terrorism involving multiple actors creates complex international networks and funding mechanisms, straining diplomatic relationships between nations. Furthermore, extremism violates both the human rights and fundamental rights of individuals.

### *B. Digital age as a platform for extremism*

To comprehend the facilitation of extremism and violent extremism in the digital age, it is essential to grasp the nature of the present world. According to Digital Sociology (n.d.), the Digital Age, also known as the Information Age or the Computer Age, characterizes the contemporary era in which the pervasive use of the Internet has become integral to various dimensions of society. This era emerged in the 1970s and encompasses the widespread adoption of personal computers and communication technologies, significantly impacting social, political, and business domains. In the fully digitalized landscape of today, the propagation and promotion of extremism have become effortless undertakings. As a result, individuals and societies face a formidable challenge in combatting extremism amidst the opportunities and challenges presented by the digital age. The ramifications of extremism manifest both online and in tangible forms, posing threats to national security.

In line with the research by Ganesh and Bright (2020), drawing upon the insights of Gill et al. (2017), it is evident that extremists skillfully exploit social media platforms and the broader realm of the Internet to serve their purposes. These purposes encompass the dissemination of hateful narratives, propaganda, financial transactions, recruitment activities, and the exchange of operational information. An example of hate speech as stated in (Al Jazeera, 2019) is, "hate propaganda targeting Muslim communities" in Sri Lanka aftermath of the Easter Sunday Bombings 2019 which were by National Thawheed Jamath inspired by ISIS. Furthermore, social media platforms have become conduits for inciting violence, as extremists share provocative content and venerate terrorist leaders. According to Digital Watch Observatory, "Terrorist entities employ online propaganda as a strategic tool to effectively radicalize individuals, recruit supporters and new members, and even instigate "lone wolf attacks" (as evidenced by the case of the Christchurch gunman [who live telecasted], who is believed to have undergone online radicalization). The dissemination of online propaganda also serves the central

aim of terrorist activities, which is to propagate fear and apprehension within society." The digital landscape also exposes vulnerabilities to cyber terrorism, as governmental and private entities face the risk of system disruptions and compromised information security. Influential figures on social media pose an additional challenge, as they attract susceptible youth by projecting glamorous lifestyles that obscure their underlying terror connections. Moreover, contemporary trends indicate an increasing utilization of disinformation by violent extremists and terrorist groups, particularly targeting vulnerable populations residing in conflict-affected regions, as underscored by the International Centre for Counter-Terrorism - ICCT (n.d.). Additionally, the dark web, a clandestine segment of the internet that evades search engine indexing, serves as a breeding ground for extremist activities, encompassing the illicit trade of goods, coordination of attacks, and the dissemination of hard-to-access extremist content. Easy accessibility to extremist and terrorist networks for the exchange of information further exacerbates the challenges associated with extremism in the digital age. Further, it is important to draw attention that the process of radicalization and recruitment predominantly occurs within the online domain, facilitated by extremist groups leveraging various means such as propaganda outlets, front organizations, cover identities, and sympathetic networks.

### *a. Sri Lankan situation*

Before the widespread usage of the term "Violent Extremism," Sri Lanka had already experienced various instances of such phenomena. In 1971, the Janatha Vimukthi Peramuna (JVP) uprising served as the country's first encounter with organized violent extremism following its independence. As highlighted by the Center for Policy Alternatives (2021), the subsequent LTTE uprising in the 1980s predominantly involved Tamil youth from the northern and eastern regions of Sri Lanka. This uprising can be categorized as a form of violent extremism, as Tamil youth were trained, armed, and indoctrinated with an ideology focused on the pursuit of a separate Tamil Eelam. Extremist Buddhist nationalism also poses a threat, exemplified by groups like Bodu Bala Sena.

Additionally, the 2019 Easter Sunday attacks, alleged to be carried out by an ISIS-inspired group called National Thawheed Jamath, shook the country. It can be regarded as a prominent incident where online extremism happened afterwards. Following the attacks, Sri Lanka temporarily blocked certain social media networks and messaging apps, including Facebook and WhatsApp, as reported by Al Jazeera (2019). This action was taken in response to an inflammatory post that incited anti-Muslim riots across multiple towns. In one such town, Chilaw, predominantly inhabited by Christians, there were instances of stone-throwing at mosques and Muslim-owned shops in response to the Facebook post made by a shopkeeper,



according to the police. The aftermath of these events witnessed communal violence, including the boycott of Muslim businesses. Sri Lanka faced a significant rise in online extremism following the Easter Sunday bombings, targeting the Muslim community. On one hand, there was understandable fear among non-Muslims in the wake of the unprecedented brutal bombings. On the other hand, innocent Muslims who had no association with the extremist group NTJ were unfairly affected.

### *C. Prevention of extremism in the digital age*

The digital age, despite its inherent challenges and role as a platform for online extremism, can also be effectively harnessed for positive purposes. The essence lies in utilizing the digital age efficiently to contribute to the well-being of humanity. Although individuals who are radicalized, extremists, and terrorists may exploit the online realm for their hidden motives, it is imperative to acknowledge that the opposing party can employ the digital age as a means to counter and eliminate such attacks. Ultimately, the crux of the matter lies in strategically utilizing the digital age as a potent tool to combat and eradicate the threats posed by online extremism.

Starting from individuals, tech companies, and private entities to governments all over the world are utilizing precautionary measures to prevent online extremism. These measures can be by way of websites, laws, resolutions or policies. Social media platforms have community standards where if they detect extremist activities they take it down, it also provides the opportunity to report such content. For example, YouTube uses enhanced Content Moderation, where machine learning algorithms and human moderators are employed as moderators to identify and remove extremist content from its platform. In Sri Lanka, Section 3 of the International Covenant On Civil and Political Rights Act No.56 of 2007 (ICCPR Act) is a significant legal framework to address hate crimes. The Educate Against Hate website, established by the Home Office and Department of Education of the United Kingdom is another example. the website serves as an information hub catering to students, teachers, and parents. Its primary objective is to provide a comprehensive range of resources and support materials aimed at countering extremist ideologies and promoting education focused on tolerance and inclusivity. Another example is the Global Internet Forum to Counter Terrorism (GIFT), which is an initiative that facilitates the collaboration and exchange of information among the technology industry, government bodies, civil society organizations, and academic institutions. Its primary objective is to collectively address and mitigate the impact of terrorist and violent extremist activities on the internet. Another example is the Toronto Declaration which addresses the protection of human rights in the context of artificial intelligence. Led by Amnesty

International and Access Now, it has received widespread support from the global human rights community.

## V. CONCLUSION

In conclusion, the prevention of extremism in the digital age is a pressing concern that demands immediate attention and this applies to Sri Lanka as well. The digital revolution has transformed societal structures and communication patterns, presenting both opportunities and challenges in the realm of security. Extremism thrives in the digital environment, where online platforms have become instrumental in disseminating extremist content, recruiting susceptible individuals, and facilitating extremist activities. Understanding extremism requires examining diverse definitions influenced by societal norms, cultural values, religious beliefs, and gender perspectives. Extremism, including violent extremism, poses significant threats to national security, social order, and human rights, while also fostering discrimination and straining diplomatic relationships. Online platforms, including social media and the dark web, serve as powerful tools for the dissemination of hate speech, recruitment, and incitement of violence. Prevention efforts necessitate a collaborative approach involving individuals, tech companies, private entities, and governments, with measures such as community standards, legislation addressing hate crimes, and collaborative initiatives for information sharing. Promoting digital literacy and education focused on tolerance are crucial components. International cooperation, exemplified by initiatives like the Global Internet Forum to Counter Terrorism, is essential in mitigating the impact of online extremism. By comprehensively understanding the threat landscape and strategically utilizing digital tools, societies can counter extremism and create a safer and more inclusive digital environment.

## VI. RECOMMENDATIONS

To further advance the endeavours aimed at countering extremist activities within the digital realm, a range of supplementary actions can be deployed. Of paramount importance is the cultivation of digital literacy among individuals, equipping them with the capacity to identify terrorist or extremist content and comprehend the potential ramifications, thereby fortifying their resilience against falling prey to such material. Moreover, fostering collaboration with technology companies assumes pivotal significance as it engenders cooperation among governments, law enforcement agencies, and technology enterprises, ultimately yielding the development and implementation of policies specifically designed to counteract extremist activities. In this context, technology companies can allocate resources towards the deployment of cutting-edge algorithms and artificial intelligence systems that expedite the identification and removal of extremist content. Additionally, the establishment of a robust reporting mechanism, congruent with principles of victim

and witness protection, assumes indispensable importance. Concurrently, forging alliances with civil society actors constitutes a potent strategy, providing a platform for civil society organizations, community leaders, and religious institutions to engender online dialogues, cultivate mutual understanding, and promote initiatives aimed at fostering peace. Lastly, the augmentation of international cooperation assumes paramount significance, as it facilitates the exchange of information among governments, law enforcement agencies, and technology companies, thereby bolstering efforts to combat extremist activities transcending national boundaries. The sharing of best practices, intelligence, and expertise serves to fortify preventive measures and response capabilities, amplifying the efficacy of counter-extremism endeavours.

### REFERENCES

1. Ai and violent extremism - trends in 2023 (no date) Digital Watch Observatory. Available at: <https://dig.watch/topics/violent-extremism> (Accessed: 18 June 2023).
2. Al Jazeera (2019) *Sri Lanka blocks social media again after attacks on Muslims, Sri Lanka Bombing News | Al Jazeera*. Available at: <https://www.aljazeera.com/news/2019/5/13/sri-lanka-blocks-social-media-again-after-attacks-on-muslims> (Accessed: 19 June 2023).
3. Al Jazeera (2019) Sri Lanka urged to tackle 'hate propaganda' against Muslims, Human Rights News | Al Jazeera. Available at: <https://www.aljazeera.com/news/2019/8/26/sri-lanka-urged-to-tackle-hate-propaganda-against-muslims> (Accessed: 18 June 2023).
4. Digital Sociology. (n.d.). *The Digital Age | The Challenges And Effects To Humanity*. [online] Available at: <https://digitalsociology.org.uk/>.
5. Educate against hate (no date) Campaign Toolkit. Available at: <https://www.campaigntoolkit.org/casestudies/educate-against-hate-uk-government/> (Accessed: 18 June 2023).
6. Ganesh, B. and Bright, J. (2020). *Countering Extremists on Social Media: Challenges for Strategic Communication and Content Moderation*. *Policy & Internet*, 12(1), pp.6–19. doi:<https://doi.org/10.1002/poi3.236>.
7. International Centre for Counter-Terrorism - ICCT. (n.d.). *Strategic Communications, Disinformation and Violent Extremism*. [online] Available at: <https://www.icct.nl/project/strategic-communications-disinformation-and-violent-extremism> [Accessed 18 Jun. 2023].
8. LaFree, G. and Freilich, J.D. (2019). *Government Policies for Counteracting Violent Extremism*. *Annual Review of Criminology*, 2(1), pp.383–404. doi:<https://doi.org/10.1146/annurev-criminol-011518-024542>.
9. *Policy recommendations on preventing violent extremism in Sri Lanka*. Available at: [https://www.cpalanka.org/wp-content/uploads/2021/12/PVE-Eng\\_webfile.pdf](https://www.cpalanka.org/wp-content/uploads/2021/12/PVE-Eng_webfile.pdf) (Accessed: 19 June 2023).
10. Schmid, A. (n.d.). Chapter 2 Terrorism Prevention: Conceptual Issues (Definitions, Typologies and Theories). [online] Available at: <https://www.icct.nl/sites/default/files/2023-01/Chapter-2-Handbook-.pdf>
11. von Behr, I., Reding, A., Edwards, C. and Gribbon, L. (2013). *Radicalisation in the Digital Era*. [online] Available at [https://www.rand.org/content/dam/rand/pubs/research\\_reports/RR400/RR453/RAND\\_RR453.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RR400/RR453/RAND_RR453.pdf).

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# Resurgence of Islamic State in Iraq & Syria and Its Propaganda

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**Abstract** – A terrorist organization with a strong ideological presence is not totally vanquished just by the death of its members and the group's dormancy. According to multiple works of literature, ISIS is considered an inspiration by many other extremist groups and is blamed for the rebirth of various terrorist groups around the world, in various forms and factions. Despite the loss of presence in 2017, ISIS began to re-emerge in 2018. Notwithstanding efficient and successful counter-ISIS measures by regional and international actors, the terrorist group is still actively reconstructing Iraq and Syria using its most sophisticated propaganda which is challenging to counter. The goal of this research is to shed light on ISIS as a whole and the propaganda used by the group that led to it becoming the world's most destructive terrorist organization. This is qualitative research based on secondary sources with an analytical approach to the research problem. Drawing on the group's history, actions, and subsequent global reactions, an attempt is made to map the potential problems they pose to the battle against terrorism by using a sophisticated mode of propaganda. This article seeks to track the resurgence of ISIS despite being gradually weakened over the years due to its strong propaganda campaign through modern and advanced methods.

**Keywords:** ISIS, Propaganda, Terrorism, Iraq, and Syria

## I. BACKGROUND

The Islamic State or the Islamic State of Iraq and Syria or Islamic State of Iraq and Levant which is commonly known as the ISIS, is a Salafi–Jihadist militant group which basically operates in Iraq and Syria with the primary goal to establish an Islamic Caliphate. The initial formation of the Islamic State occurred in 1999 pioneered by Abu Musab al Zarqawi and it was named the Jama'at al-Tawhid Wa'l Jihad which later became Al Qaeda in Iraq and then the Islamic State. With various up and downs within the period, the Islamic State became prominent globally in 2014 and, eventually in 2017 the IS declined due to Operation Inherent Resolve and the responses of the coalition forces against it.

Despite the collapse of the caliphate and territory of the IS in 2017, it has revealed significant resilience. Its members seemingly continued to engage in operating offensives because its remnants were held in a small territorial area in Iraq and Syria such as the Abu Kamal district. Moreover, the organization pursues the most sophisticated and intense propaganda for its growth. Further, despite the loss of territorial control, IS was in possession of extensive wealth with strong media coverage which laid the foundation for the group to operate straightforwardly.

Within 2018, IS began to revert to more traditional terrorist strategies. For instance, engaging in guerilla attacks in Iraq and Syria and developing a network of sleeper cells. As for the records, from the middle of 2018 to 2019, the IS group conducted nearly 250 strikes against civilians. In 2020, the IS was able to upsurge launching its attacks in those rural areas as a result of the drawdown of the US forces in Iraq and the outbreak of COVID–19. By 2020, nearly more than 100 attacks for a month were reported in Iraq and approximately more than 120 attacks were recorded in Syria by August. Moreover, the UN demonstrated the IS as an “entrenched insurgency” which is far from overcome. Besides in 2023, the US Security Council restated that the group continue developing modern technologies which has “become more sophisticated and prolific”. On the other hand, the improvements in the civil war in Syria recently and the political disorder in Iraq laid an interruption to the counter-terrorism measures against ISIS.

Notwithstanding its defeat in 2017, ISIS has launched multiple attacks since January 2018 in various places in Iraq Syria and other places in the world, resulting in numerous casualties and damage. Most notably, suicide attacks in Manjib, Baghdad, and bomb attacks in Hasakah in 2019, 2021 and 2022, respectively. It demonstrates that ISIS is really going through a process of resurgence ever since its defeat.

The implementation of a successful response to ISIS propaganda faces a number of difficulties. First, social media's inadequate control and lack of regulation. Although specific Twitter accounts linked to terrorist groups can be blocked, they sometimes resurface hours later with a slightly changed

account name. 20,000 ISIS-related Twitter profiles were *b. Al-Hayat Media*

suspended, according to the hacker group Anonymous, but Basically focused on a Western Audience and almost these users simply created new ones. Second, ISIS receives all contents of Al-Hayat Media are based on English language support from the media's airing of "newsworthy" propaganda. and Arabic translations of. Primarily the productions of this Instead of being shared by ISIS agents, the violent execution Media swing between intimidating the audience by portraying video of American journalist James Foley was spread by CNN extreme violence and the general life routine in the areas under and the BBC. ISIS has thousands of social networking control of the organization. accounts and media professionals who have created a more effective recruitment campaign, despite the fact that many organizations are dedicated to counter ISIS Propaganda.

### II. RESEARCH METHODOLOGY

Basically, this research is qualitative research with an analytical approach to the research question. Primary data for the research were collected with reference to the secondary sources including books and journal articles which have been focused on the facts of the research problem.

### III. NATURE OF ISIS PROPAGANDA

ISIS's Propaganda campaign is more sophisticated, has different content, and uses different dissemination methods than earlier terrorist groups. "ISIS uses centralized propaganda to prey on a target's weak sense of identity and social networks to disseminate their message" (Gerstel, 2016). Basically, ISIS is gaining unprecedented dominance on the Internet and social media when it comes to its propaganda.

Al-Hayat Media and Al-Furqan Foundation are ISIS's most significant and key media organizations. "The media people are more important than the soldiers and their monthly income is higher," (Miller & Mekhennet, 2015). Many former IT and journalism employees who are skilled in video editing and graphic design are now part of this bureaucracy. While Abu Amr al-Shami, a 36-year-old Syrian, is the head of the media, there are a number of Westerners towards the top of the hierarchy. Several articles mention an American in charge of editing.

#### *a. Al-Furqan Foundation*

Al-Furqan Foundation is an Iraqi-based media organization which is considered to be the primary media outlet of ISIS. Reportedly it has created nearly 160 publications including audio and video content which contain the speeches delivered by its leaders and also a number of documentaries. Additionally, it has released multi-part film series as well. However, the videos and films that are produced by this foundation have used high-quality and advanced techniques. Through these contents, they try to seek appeal from the audience together with a demonstration of the consequences for those who are against the organization.

Apart from these two media organizations, there are several other media organizations in terms of disseminating the IS propaganda campaign including Al-Ajnad Media Center and magazines such as Dubiq which is the most significant ISIS magazine. However, the group does not usually use platforms like YouTube to publish their content directly in order to avoid getting reported and deleted. When it comes to the use of social media by the group, it is remarkable in spreading psychological warfare.

ISIS' inventive propaganda poses a number of policy difficulties that will necessitate the modernization of Western counterterrorism organizations. The ease of access to social media is the main barrier to good policy. Twitter is the major social media platform that is been used by ISIS though they are using other platforms such as Facebook. One needs to create a new Twitter account to continue using it once it has been suspended. Manually banning and filtering profiles is a time-consuming task with little to show for it. According to the reports in 2014, ISIS seemed to have nearly 46000 Twitter accounts at that time.

When it comes to other social media platforms other than Twitter, trailing the Facebook accounts based on the group is much harder than on Twitter. Basically, the group is using "ghost accounts" without direct connection to the group or portraying extremist tendencies. Moreover, it has been found that ISIS uses Facebook to track people those who have homosexual inclinations to impose penalties on them.

ISIS has a reputation for using the media to effectively attract new fighters, win over sympathizers, and create fear. The development and distribution of quality publications, videos, and social media material are all part of its media strategy. ISIS's physical caliphate was mainly knocked down, but it continued to be active online on websites, via encrypted message applications, and on social media. By doing so, the organization was able to radicalize people from afar and reach a large audience.

In addition to its own media organizations and social media platforms, ISIS possesses a number of other media organizations that are supporting the propaganda campaign. Among them, Al-Battar Foundation, Al-Minbar al-I'lami al-Jihadi, Ghuraba' Foundation and Isdarat al-Khilafah play eminent roles in disseminating the IS propaganda.

When it comes to recruiting propaganda, the Western targets of the groups are individuals mainly between 16 to 25 old who are isolated and who do not have a clear purpose in

their community. ISIS is able to convince those people that their actions would result in a victory as they are fighting for a legitimate Muslim state and they are usually convinced that they would have a meaningful life once they join the caliphate. Through this propaganda, ISIS is able to easily hallucinate those individuals.

#### IV. ONGOING IS THREAT IN IRAQ AND SYRIA 2018 ONWARDS.

Despite the official declaration of the defeat of ISIS by 2017, it appeared to reemerge since 2018 and reportedly the group has carried out a number of attacks not only limited to Iraq and Syria but also other parts of the world. Further, Baghdadi appeared in a video published in April 2019 addressing the recent defeat of the caliphate and through that speech, he mentioned that the defeat is temporary and the caliphate will be returned once again. (Anon., 2021)

##### Syria.

Today, ISIS officials appear to be more concerned with delivering broad advice via online messages than with exerting day-to-day leadership over all of the group's members and sympathizers in Syria. The group now appears to function on two levels: a core of militants carrying out intricate operations on the leadership's orders, while a second, broader set of decentralized cells carries out smaller, more regular raids, intimidates the public, and manages the money. In this way, ISIS has established entrenched communication and transit networks linking the country's many areas, giving particular tasks to its cells in each location and perceiving its efforts in each as complementing those in others. ISIS is preparing to reclaim overt territorial control if and when the conditions permit.

ISIS employs a separate strategy in each of Syria's four zones of control. It also trains the majority of its new recruits at Badia, the rear base for its operations in Syria and Iraq. It accumulates cash and caches supplies in the northeast while staging assaults against security personnel, technocrats, and tribal notables to undermine public trust in the local authority. It maintains hideouts for mid-level and senior commanders in the north and northwest, where they may remain anonymous amid the hundreds of thousands of displaced Syrians living in temporary communities. The insurgencies of ISIS in central and northern Syria are particularly connected. The organization shifts soldiers and material between regime- and SDF-controlled territories according to shifting objectives, logistical demands, and the weaknesses of its adversaries in each location. These movements appear to be coordinated by commanders at the central, regional, and sub-regional levels.

Syria's front lines were frozen in 2020, allowing Damascus and its external supporters to redeploy forces to combat ISIS in the centre and east. This campaign resulted in a decrease in ISIS strikes against regime targets during 2021. To evade interdiction, some ISIS members retreated to even more distant portions of central Syria, while many more fled to Iraq or north-eastern Syria. This second group of fighters appears to have bolstered the cells in the latter areas, allowing ISIS to carry out more operations, such as the spectacular January 2022 assault on the SDF-run Hasakeh prison, which held ISIS fighters and adolescent boys from Syria, Iraq, and third countries.

##### Iraq

Despite a drop in the total number of Islamic State assaults in Iraq from 2017 to 2018, attacks on government targets rose from 2017 to 2018. From 2017 to 2018, attacks in Kirkuk province more than quadrupled.

) The Iraqi government has failed to address risk factors that lead to instability, such as the expense of rebuilding, economic stagnation, corruption, and ungoverned spaces in disputed areas around the country.

) Shia militias supported by Iran continue to increase Shia-Sunni tensions in Iraq, and their ties to Iran make them a helpful recruiting tool for the sectarian-fueled Islamic State insurgency.

While many US policymakers and Iraqi politicians have declared victory over the Islamic State, there are multiple evidence that the Islamic State is still a threat and is concentrating its tactics and assaults on government targets. While the Islamic State's territorial control has been reduced to tiny enclaves in rural Iraq, the organization nevertheless conducted an average of seventy-five assaults per month in 2018, including a year-over-year increase in attacks in Kirkuk province. Much like the predecessors of the Islamic State, Al Qaeda in Iraq (AQI) and the Islamic State in Iraq (ISI), Islamic State militants are exploiting local grievances and operating from cell structures to conduct hit-and-run attacks, kidnappings for ransom, targeted assassinations, and bombings with improvised explosive devices.

While the Islamic State has suffered a huge setback in terms of geographical control, it remains an appealing outlet for individuals who have no other options. Many risk factors, including rampant corruption and political turmoil, tensions between Baghdad and the Kurdistan Regional Government (KRG), abundant unpatrolled and ungoverned space, the backlash against the Iranian-backed Hash'd al Shaabi—also known as the Popular Mobilization Forces (PMF), and legitimate economic and humanitarian grievances in areas recently liberated from Islamic State, have allowed the Islamic State narrative to survive in Iraq.

Because there is no official military presence in movement that can compete with the thousands of online ISIS ungoverned areas and contested territory in Kirkuk and Salah supporters. Governmental organizations will be able to ad-Dine provinces, Islamic State terrorists may operate freely. concentrate on harder targets, including blocking ISIS-created This is due, in part, to the security vacuum created by the apps and accounts, by doing this. forced retreat of Kurdish Peshmerga from these areas in the aftermath of the Kurdish referendum.

The Islamic State continues to use the digital caliphate to reinforce its narrative, in addition to operating from Iraq's ungoverned and contested territories. The Islamic State's internet propaganda stream is the most crucial avenue for the Islamic State to extensively disseminate messages advancing its anti-Western narrative.

### 2. *Delegitimize the propaganda's key message of ISIS Propaganda.*

ISIS media depicts a perfect society where recruits can discover their purpose. Counter-messaging should put a strong emphasis on telling the truth about the situation and telling the tales of those who have defected to or fled the Islamic State.

## V. COUNTERING ISIS AND ITS PROPAGANDA

Although they have had very little success, governments and independent organizations have put in place a number of programs to fight ISIS propaganda. In fact, a key reason for the failure of counter-terrorism, and military strategies of the United States is its incapability to challenge the ISIS propaganda efficiently. Several of them concentrate on delegitimizing ISIS and offering an alternate perspective. The American policy on ISIS is centred on 'degrading' rather than 'destroying' the organization. In practice, this implies that ISIS is being confined, which, incidentally, Iranian forces in Iraq and al-Assad in Syria are pleased with. A significant side consequence of 'mere confinement' is that it aids in the breakdown of the movement's shine. However, it is possible that the battle will not stop until all sides are tired. This might pave the way for "an agreement among major regional and international powers on a formula to curtail fighting and rebuild some governance." The prolonged fighting over Aleppo, Mosul, and Raqqa, as well as the importance placed by outside powers on a specific outcome of this conflict, demonstrate that, at this time, it is not exhaustion but rather an outright victory by one side or another that will decide the outcome of this conflict, and, most likely, determine the parameters for ISIS's future.

### 3. *Supporting young people who are in danger and could become targets.*

Similar types of social seclusion are practised by many Western recruits. Giving these people more individualized outreach is one way to provide them with an option to jihad.

## VI. CONCLUSION

In conclusion, the resurgence of the Islamic State (ISIS) in Syria and Iraq, along with its propaganda campaigns, continues to be a challenging and dynamic issue. Despite its large territorial losses, ISIS has evolved as a potent insurgency by capitalizing on local instability and utilizing guerrilla warfare techniques. By radicalizing people and inspiring attacks around the world, its propaganda mechanism, which is characterized by sophisticated media campaigns and a widespread online presence, continues to pose a threat. Efforts to counter ISIS involve a combination of military operations, intelligence-sharing, and counter-propaganda initiatives. With the extensive use of social media and the internet, ISIS indicates decentralized propaganda.

When it comes to propaganda the first stage in creating a compelling counter-narrative is to comprehend the flow of recruits from Western nations, innovations and attraction of ISIS propaganda. ISIS has counterterrorism organizations can collaborate with motivated private stakeholders and third parties. Three main goals should be the focus of these initiatives:

### 1. *Restrict the modes of communication.*

ISIS has a stronghold on social media platforms, making it simple for them to interact with potential recruits. Without social network community policing, no social media counteroffensive will be successful. Tech companies should be pushed to more forcefully suspend these users, and citizens should be urged to report accounts associated with ISIS. The goal of this endeavour should be to establish a grassroots

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Therefore, when looking at the activities of the group, it is obvious that ISIS demonstrates a resurgence in the

region and it is apparent that the internet and social media play a prominent role in disseminating the propaganda campaign of the group. The struggle against ISIS underscores the ongoing need for global collaboration and proactive measures to address the complex challenges posed by extremist ideologies and insurgent groups in the 21st century.

### REFERENCES

1. Anon., 2021. The Islamic State. [Online] Available at: <https://cisac.fsi.stanford.edu/mappingmilitants/profiles/islamic-state> [Accessed 15 04 2023].
2. Arab, M. E., 2016. Terror Propaganda: Da'ish's Media and Operating Strategies. [Online] Available at: <https://www.kfcris.com/pdf/a71a28f6ada9a3964c444892ea58004d587fb6f7e6a47.pdf> [Accessed 25 08 2023].
3. Becerra, M., 2022. Islamic State's Primed for Resurgence in Syria. [Online] Available at: <https://www.geopoliticalmonitor.com/the-islamic-states-potential-resurgence-in-central-and-northeastern-syria/> [Accessed 25 04 2023].
4. Bloem, W. T. O. a. W., 2016. The Rise and Fall of ISIS From Evitability to Inevitability. [Online] Available at: <https://hcss.nl/wp-content/uploads/2017/02/The-Rise-and-Fall-of-ISIS.pdf> [Accessed 12 07 2023].
5. Boehm, A., 2023. The ISIS Threat in 2023. [Online] Available at: <https://manaramagazine.org/2023/02/the-isis-threat-in-2023/#:~:text=A%202023%20UN%20Security%20Council,ISIS%20was%20far%20from%20defeated.4> [Accessed 22 04 2023].
6. center, w., 2019. Timeline: the Rise, Spread, and Fall of the Islamic State. [Online] Available at: <https://www.wilsoncenter.org/article/timeline-the-rise-spread-and-fall-the-islamic-state> [Accessed 20 04 2023].
7. Cunningham, D., Everton, S. F. & Schroeder, R., 2015. Social Media and the ISIS Narrative. [Online] Available at: [https://nps.edu/documents/104382430/104582412/Social+Media+and+the+ISIS+Narrative+\(Everton+et+al\).pdf/1a2082d-993e-460b-9b7e-7808dc6219c9](https://nps.edu/documents/104382430/104582412/Social+Media+and+the+ISIS+Narrative+(Everton+et+al).pdf/1a2082d-993e-460b-9b7e-7808dc6219c9) [Accessed 26 08 2023].
8. Gerstel, D., 2016. ISIS and Innovative Propaganda Confronting Extremism in the Digital Age. *Swarthmore International Relations Journal*, Issue 1, pp. 1-9.
9. Guttman, A., 2022. The Rise of ISIS as a Partial Surprise: An Open-Source Analysis on the Threat Evolution and Early Warnings in the United Kingdom. *International Journal of Intelligence and CounterIntelligence*.
10. Hamasaeed, S., 2022. ISIS is a Problem of Yesterday, Today and Tomorrow. [Online] Available at: <https://www.usip.org/publications/2022/07/isis-problem-yesterday-today-and-tomorrow> [Accessed 25 04 2023].
11. Laura Wakeford, L. S., 2019. Islamic State's Propaganda and Social Media: Dissemination, Support, and Resilience . In: *ISIS Propaganda* . NewYork: Oxford Academic , pp. 155-187.
12. Williamson, H., 2022. Down but not out: The Islamic State waits for an opportunity to resurge. [Online] Available at: <https://www.newarab.com/analysis/down-not-out-islamic-state-resurgence> [Accessed 24 04 2023]

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# SMALL TEAM AS A SUCCESSFUL STRATEGY TO WIN THE WAR AGAINST LTTE

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**ABSTRACT-** Sri Lanka's Armed Forces have used many war strategies to win the protracted war against LTTE. In the fourth stage of the war, which erupted under the cause of securing humanitarian needs against LTTE, the Sri Lankan Army used different strategies, tactics, and techniques and employed procedures to achieve their targets on the battlefield. The infantry regiments of the Sri Lanka Army headed adopting those more effectively against the brutal terrorism, LTTE. These new methods worked efficiently on attacking and advancing their capabilities on the battlefield while providing massive defeats for terrorists. This research extends to broadly discuss “Small Team” as one of the successful strategies used to win the war against LTTE in Sri Lanka. The composition of the Small Team consists of Navigation, Gunnery/Demolition, Communication, and Medical experts as a unit. The small Team strategy used by the Sri Lankan military was one of the key elements of the maneuverist approach to shatter the LTTE cohesion and will to fight. Moreover, Small Team provided effective battlefield shaping and conducted deep operations to weaken the enemy's ability to fight effectively while contributing to overall success in Eelam War IV. This research elaborates on the concept of a Small Team as a strategy and analyzes its impacts to win the fourth Eelam War. This research used a qualitative research approach to explain the strategy and the author used first-hand experiences of military officers through interviews, questionnaires, and other military-related secondary data for this research. Most of the sectors in Sri Lanka are going through a reform process, and Sri Lanka's military reform has also taken top priority. Against this backdrop, the modernization of Sri Lanka's military while enhancing its capabilities will help to protect and provide its national security as a key concern of the country's national security.

**Keywords:** Small Team, Strategy, War, LTTE, Fourth Eelam War, National Security

## I. INTRODUCTION

“You must adopt guerrilla tactics, strategies, and procedures on the battlefield if you want to defeat a guerrilla”. This is the main strategy of the Sri Lanka Army and Special Operation Force used in the final stage of the conflict against the brutal Liberation Tamil Tigers of Eelam, also known as the LTTE, who according to many knowledgeable assessments were far worse than Al Qaeda or any other terrorist group the world had ever known. The LTTE was a group of different capacities capable of using suicide cadres at any time and anywhere, and LTTE also had access to light aircraft, armored tanks, artillery, a fleet of ships, and some rudimentary submarines. (Hameed, 2015, p.xiv). The LTTE was well organized with their leadership and maintained naval and air force in addition to their fighting cadres on the ground, which had a potent auxiliary force supporting them. The group's leaders, who wanted a separate state in this island nation fought for almost three decades whilst doing brainwashed the group. An entire nation was horrified by the horrific conflict they fought over 30 years. They were able to maintain solid external support from Western and Asian countries to increase their funds and pressure the Sri Lankan government by political means. One of the main reasons to protract this war was the political support they achieved thus the government had no option other than to be in line with the terms and conditions brought forward by the LTTE. With strong political leadership, the Sri Lankan armed forces approached defeating the LTTE with a combination of strategies, including the use of Small Teams, to achieve their goals. Special Forces played a pivotal role in the last phase of the conflict by implementing new tactics such as Small Team Operations. While Small Teams played a vital role, it's important to note the role played by the Special Forces

towards the overall victory against the LTTE. These small-team military actions are mainly conducted by Sri Lankan Special Operation Forces (SOF) which include Commandos and Special Forces (SF) and Special Infantry Operation Team (SIOT) of the Sri Lanka Army, Special Boat Squadron (SBS) of the Sri Lanka Navy and Regiment Special Forces (RSF) of Sri Lanka Air Force.

Small Team operation against LTTE during the war was often conducted by specialized units within the Sri Lanka Army, such as Commando and Special Forces Regiments. These Small Team operations were designed to carry out specific objectives with precision, agility, and flexibility during the war. These elite regiments had conducted several Covert operations, Long Range Patrols (LRP), precision strikes, ambushes and raids, intelligence gathering, physiological warfare, and covert infiltration. One of the key factors that contributed to the success of the Sri Lankan Army's specialized units was their specialized training and expertise. These elite units underwent rigorous training in various aspects of warfare, including unconventional tactics, counterinsurgency operations, intelligence gathering, and precision strikes. This specialized training enabled them to effectively engage in combat situations and counter the unconventional tactics employed by the LTTE.

In addition to their training, these specialized units developed innovative tactics that proved instrumental in the success of the Eelam Wars. One such tactic was the use of small, highly mobile units for targeted strikes against LTTE strongholds and leadership. These units were adapted to infiltrating enemy territory, conducting surprise attacks, and quickly retreating, minimizing the risk of casualties while inflicting significant damage on the LTTE's capabilities without knowing the terrorists. Moreover, they played a vital role in intelligence gathering and analysis. Their ability to infiltrate LTTE ranks and gather crucial information about the organization's plans, movements, and weaponry provided the Sri Lankan military with a strategic advantage. Precise and accurate information and intelligent gathering helped to take accurate targets by the elite forces themselves and by the target acquired by the Air Force. This intelligence was used to plan and execute

successful operations, disrupt LTTE supply lines, and dismantle their command structure. The Small Teams' contributions extended beyond conventional warfare to psychological operations (PSYOPS) as well. They were skilled at conducting psychological warfare, including disseminating propaganda and disinformation to weaken the morale and cohesion of LTTE fighters. By sowing confusion and mistrust within the LTTE ranks, the Small Teams further undermined the organization's effectiveness. Further, these methods helped to reduce the fund-collecting ability of Western countries and their political support towards their course.

Another significant aspect of the small teams' success was their ability to establish strong relationships with local communities in conflict-affected areas. Continued infiltration into the LTTE areas made them have strong contact with the local community in the affected areas thus, they were able to win their hearts and minds. This facilitated the collection of valuable human intelligence, as well as the gaining of support and cooperation from local populations who had been adversely affected by the LTTE's activities. The small teams' engagement with communities helped in isolating the LTTE and weakening its grip on the region. This intelligence collected through the local community helped to identify the movements of their leadership and supply chain. Furthermore, the Sri Lankan Army Special Operation Forces (SOF) collaborated closely with other branches of the military, such as the Navy, and Air Force, to execute coordinated and synchronized operations. This joint approach allowed for a comprehensive and multi-faceted strategy against the LTTE. These Small Team's unique skills and capabilities complemented the efforts of the other branches, contributing to a holistic military campaign. In terms of technological advancements, the SOF embraced cutting-edge equipment and technology, enhancing their operational capabilities. They utilized advanced communication systems, surveillance equipment, and weaponry to gain a tactical advantage over the LTTE. This modernization improved their situational awareness and enabled them to respond swiftly to evolving threats.

Use of infantry initially the Sri Lankan Army found that the usual tactics of advancing infantry

formations along linear avenues of approach and attempting to breakthrough set positions were a meat grinder. The LTTE infiltrated these formations' flanks using freedom of movement before striking the column deeply. When IEDs and other obstructions caused the army columns to stall, the LTTE used lethal accuracy with their artillery and mortars. (www.moore.army.mil, n.d.) Therefore, the expansion of innovation to infantry the most innovative aspect of the Sri Lankan Army's adjustments after the 2001 to 2006 cease-fire was the organization of 12-man teams within infantry Battalions was one of the successful strategies to win the war against LTTE through introduced Special Infantry Operation Team (SIOT) concept. These methods were introduced by SOF to the infantry regiments and the specialized unconventional tactics were trained to fight the terrorists with unorthodox tactics.

The Sri Lankan Army's maneuvers approach against the LTTE involved a combination of conventional warfare tactics, counterinsurgency methods, and intelligence operations. importantly one of the key elements of the Sri Lanka Army's approach included the use of SOF small teams for covert operations, intelligence gathering, and targeted strikes against high-value LTTE targets. moreover, based on the operational framework the Sri Lanka Army utilized small, specialized teams in deep operations to target key LTTE leaders, disrupt their operations, gather intelligence, and conduct sabotage. These deep operations were often carried out by Special Forces and other elite units. While specific details about individual operations may not be readily available, these small team deep operations had several effects on the overall conflict against the LTTE: This also provided the necessary facility to carry out rear and close operations for SIOT teams effectively.

This paper will give an in-depth idea Small Team as a strategy: the concept of using a small team as a strategic approach refers to the deliberate decision to form and deploy a compact group of highly skilled individuals to achieve specific goals or objectives. This approach contrasts with traditional large-scale operations and emphasizes efficiency, agility, and specialization. Small teams are often favored in situations where rapid decision-making, adaptability,

and close coordination are crucial. In a war against a terrorist organization such as the LTTE, we hit them by using their tactics, and techniques in which they were eventually defeated.

## **II. RESEARCH OBJECTIVE**

To analyze the positive and negative effects that happened during the war due to the concept of small team operations during the 4th Elam war and to urge the main key aspects of small team operations and strengths of those missions whilst fighting against LTTE.

## **III. RESEARCH QUESTIONS**

- a. What are the strategies used under the “small team operations” concept to defeat LTTE?
- b. Did “Small Team Operations” contribute to the 4<sup>th</sup> Elam war?
- c. Does “Small Team Operations” work parallel to other warfare concepts of the Sri Lankan Army?

## **IV. MILITARY DEFINITION OF SMALL TEAM OPERATION**

A military Small Team Operation refers to a coordinated and organized mission conducted by a small unit or team within a larger military force. Small group operations are essential for achieving specific objectives, often in complex and dynamic environments where a conventional force might be difficult to achieve. These operations typically involve a relatively small number of personnel, ranging from a handful to a few dozen, and are characterized by close collaboration, specialized skills, and a high degree of adaptability. (irp.fas.org, n.d.)

Key aspects of military small group operations include:

- a. **Teamwork:** Close cooperation and effective communication among team members are crucial for the success of small group operations. Each member's skills and expertise will contribute to the overall mission.

- b. **Flexibility:** Small teams can quickly adapt to changing situations on the battlefield and adjust their tactics as needed. This may help to maneuver in different dimensions of war.
  - c. **Stealth and Surprise:** Many small group operations rely on surprise and stealth to achieve their objectives, often catching the enemy off-guard.
  - d. **Specialization:** Team members often possess specialized skills, such as marksmanship, demolitions, medical expertise, communication, and language proficiency, which are utilized to accomplish specific tasks. These individual skills will enhance the effectiveness and efficiency during the war.
  - e. **Terrain and Environment:** Small group operations often take place in challenging terrain or urban environments, where larger military units might face difficulties.
  - f. **Risk:** Due to their smaller size, these teams may face higher risks, but their agility and specialized training help mitigate some of these risks.
  - g. **Precision:** Small group operations often aim for precision strikes or targeted actions rather than engaging in large-scale combat.
  - h. **Infiltration and Exfiltration:** The ability to enter and exit the target area discreetly is crucial for the success and survival of small group operations.
- a. **Clear and Hold Operations:** The Sri Lanka Army engaged in a series of clear and hold operations, where LTTE-controlled territories were targeted and cleared of terrorists. Once cleared, the army aimed to establish a lasting presence to prevent the LTTE from regaining control. Mainly, these operations were carried out by the infantry.
  - b. **Surveillance and Intelligence:** Gathering accurate and timely intelligence was crucial in the fight against the LTTE. The Sri Lanka Army invested in intelligence-gathering efforts to locate LTTE hideouts, supply routes, and leadership centers. The use of the Air Force, Naval, and intelligence agencies of Sri Lanka immensely contributes to this regard. The support of the Small Teams also contributed well in terms of surveillance and intelligence.
  - c. **Counterinsurgency Tactics:** The Sri Lankan Army employed counterinsurgency tactics, such as cordon and search operations, to isolate LTTE fighters from the local population. These operations aimed to minimize civilian casualties while targeting LTTE elements. Deep operations in the LTTE-controlled territories made LTTE leadership restrict their movements and hinder their supply chains.
  - d. **Amphibious and Aerial Assaults:** In certain instances, the Sri Lanka Army utilized amphibious and aerial assaults to target LTTE strongholds, disrupt their command and control structures, and cut off their supply lines.
  - e. **Humanitarian Operations:** As the conflict intensified, there was an emphasis on providing humanitarian assistance to the civilian population trapped in conflict zones. The army worked to rescue civilians and provide them with aid, medical care, and essential supplies.
  - f. **International Coordination:** The Sri Lankan government sought international support and cooperation in its efforts to counter the LTTE. This included diplomatic efforts, intelligence sharing, and assistance from other countries. The

V. **OPERATION FRAMEWORK OF SRI LANKA ARMY THE FOURTH STAGE OF THE WAR AGAINST LTTE**

The Sri Lankan War against LTTE, which lasted for decades, involved multiple phases, and the Sri Lankan Army employed different strategies and tactics over time. The fourth stage or final push to defeat the LTTE took place from approximately 2006 to 2009. Here's a general outline of the operational framework that the Sri Lanka Army employed in its efforts against the LTTE:

specialized training that was given to the Sri Lankan Armed Forces by the friendly countries made them understand different kinds of tactics used in similar scenarios faced by those countries.

- g. **Use of Special Forces:** Special forces units played a significant role in conducting precision operations against high-value LTTE targets, including leadership figures and key installations.
- h. **Psychological Operations:** The Sri Lanka Army also employed psychological operations to undermine the morale and cohesion of LTTE fighters, as well as to encourage surrender among insurgents.

It's important to note that the Sri Lankan Army's approach evolved and was influenced by various factors, including changes in leadership, international pressure, and shifting tactics employed by the LTTE.

## **VI. ARMY SMALL TEAM OPERATION**

Sri Lanka Army Small Team operation can be divided into two categories firstly, SOF operation conducted by Commandos and Special Forces. Secondly, infantry operations are conducted by SIOT. The campaign was led by these SOFs, who carried out several missions while acting from the forefront of planning through the operational level and occasionally the tactical level. These Elite Forces contributed to the success of this campaign, which is unparalleled in the history of counterinsurgency, by striking at the terrorists' leadership in the heart of the LTTE-controlled areas, destroying and disrupting their reserves and indirect fire weapon systems in the middle of the battle, and at times counterattacking to restore crucial defenses (Dharmaratne, 2011). The SOF mainly conducted the deep operations in the LTTE areas beyond miles away from the government-controlled areas and the SIOT teams conducted their operations along the forward line and beyond. At the start of Eelam War IV, the LTTE was able to operate throughout the country. To overcome the LTTE tactics Sri Lanka Army used small-team operations. According to the article published by Peter Layton small, well-trained, highly mobile groups were essential in these missions. The LTTE's supply and

communication lines were disrupted as these groups slipped behind the LTTE's front lines and attacked High-Value Targets (HVTs) while also giving real-time intelligence. Groups as small as sections were instructed and given permission to order precise air, artillery, and mortar attacks on LTTE defenses. The LTTE forces were forced to lose their ability to move and were held down, which allowed for a detailed loss. This was made possible by the combination of frontal and in-depth assaults. (Layton, 2015).

During the Eastern theatre of operation, the infantry units' offensive actions against the LTTE were led by the Elite Forces. The dispersed enemy tactics and the dense forest with an overhead canopy that is frequently encountered in the East were deciding considerations in choosing such a design. The operations were planned to combat the LTTE by having the Elite Forces spread out in Small Teams ahead of infantry battalions, gathering intelligence and weakening LTTE combat power over an extended period through a series of well-coordinated attacks, pulling the battalions to the critical location on the battlefield. In stages, this procedure was repeated. By using this strategy, military operations in the Eastern theatre were carried out in two stages: the first saw Special Forces affiliated with some infantry battalions capture LTTE-controlled areas north of the Polonnaruwa - Batticaloa road, and the second saw Commandos supported by some infantry units' capture LTTE controlled areas south of that road (Dharmaratne, 2011).

The SOF was used to conduct operations over the entire width and depth of the Northern operational theatre when the humanitarian operations were expanded there. Their duties included everything from LRP to Small Team operations inside enemy lines, striking operations to rescue operations, and traditional operations to unorthodox ones. The remaining Elite Forces were used to operate up to about 20 km from the forward line of their troops, primarily in support of close operations of the infantry Divisions and Brigades, which significantly restricted LTTE freedom of movement. The LRP conducted strategically important operations deep into enemy territory, such as gaining targets for air strikes and artillery, and ambushing LTTE (Dharmaratne, 2011).

Here, a vital factor was how these Elite Forces Small teams shaped battlefields during stipulated operations. for that used strategies were:

- a. **Attrition:** The Elite Forces Small Teams infiltrated through the LTTE lines, executed out targeted attacks, and significantly damaged them while infantry formations engaged the LTTE in close combat. This made the LTTE's defeat inevitable by forcing its cadres, who had been fighting the approaching infantry, to disperse. The Elite Forces have demonstrated their capacity to eliminate a sizable number of LTTE cadres in a specific location before infantry forces arrive at their targets. Another key event occurred at the very end of the fight when the Elite Forces tasked with clearing the region used precision targeting to eliminate nearly all of the LTTE leadership.
- b. **Flank Protection:** One of the primary missions given to the Elite Forces Small Teams was the protection of the flanks of infantry divisions. Infantry formations' flanks were expanded and exposed as they advanced by liberating territory. To keep the enemy from approaching these flanks, the Elite Forces operated away from them.
- c. **Counter Penetration Tasks:** Elite Forces Small Teams prevented the certain collapse of troops' defenses and LTTE regaining initiative.
- d. **Destruction of Strong Points:** There were times when the army advance was slowed down or outright stopped by heavily entrenched LTTE strongholds. The Elite Forces Small Teams were brought in as a last resort to neutralize these strong locations.
- e. **Rescue Operations/Rear Area Security:** On 29 September 2008, the LTTE raided the Anuradhapura Air Force base using their elites, the black tigers. Two LTTE aircraft bombed the base at the same time. A squadron of Special Forces was reinforced from Vavuniya with the task of halting further exploitation of the terrorist attack. Special Forces teams maneuvered into the area and accomplished the mission killing the remaining terrorists and regaining control. Following the defeat in the Eastern province, the LTTE's strategy was to disperse the Armed Forces throughout the country thus decreasing troop concentration on the Northern Theatre of operation. The LTTE's planned actions were predominantly concentrated in the Southern Province because the jungles provided substantial cover to conduct clandestine operations against the government Security Forces and to disturb the civil administration. Small groups of LTTE conducted a series of operations such as ambushes and sabotage. To thwart such devastations, small groups of Special Operations Forces were inducted to carry out sustained operations with support from infantry and paramilitary forces. Besides major offensive operations, the tasks that were carried out by the Combat Riders and Dog Squadron of the Special Operations Forces were instrumental in pacification operations. Clandestine operations, offensive patrols, sabotage missions, raids, and other operations that were carried out by them in liberated areas and existing government-controlled areas facilitated diminished LTTE accomplishments and secured lines of communication in support of offensive operations.
- e. **Isolation of LTTE Positions:** In many battles, the Elite Forces Small Teams launched a series of concentrated attacks behind LTTE forward positions to isolate the infantry's objectives or create a dislocation effect, thereby fostering the conditions necessary for infantry to successfully capture those areas.
- f. **Leading Infantry to Positions:** Elite Forces Small Teams guided the infantry columns in certain moves up to pre-designated forward locations.
- g. **Break-out Battles:** The SOF played a significant role whenever the operations reached a crucial or decisive point. The largest-ever rescue operation, which took place in Pudumatalan, was led by the Commandos and Special Forces, who breached enemy defenses from two different angles and created two entry points.

- h. **Deep Operations:** Long-range patrolling, a stunning tactical component, is the most terrible operational pattern used in special operations. These Small Teams combine individuals with a variety of skills to perform demanding tasks. They have the skills and drive to carry out independent, small-group deep operations for a long time—up to 20 days or longer, depending on the "Caches"—without resupply. Troops from the Vavuniya, Mannar, and Welioya regions were initially incorporated when offensives started in the Northern theatre. Terrorists were more free to move around in the space between the two. Long Range Patrols, or "LRPs," as they are more commonly known, carried out a well-coordinated long-term program to deny the LTTE this freedom. LRP set up their long-term caches and surveillance in the area gradually and updated the intelligence picture. they subsequently started carrying out strikes, dealing the LTTE a devastating blow. They severely damaged the top leadership of the LTTE by assassinating several top LTTE leaders and separating their fighting cadres from their leaders. The LTTE deployed thousands of their cadres in their rear to counter the threat that the LRP had halted.

Moreover, the formation of 12-man teams within infantry battalions was the novel change made by the Sri Lankan Army during the 2001–2006 fragile ceasefire. Within the four-kilometer frontline zone that served as the lead elements' perimeter, these operated autonomously. The infantry battalions were divided into small units to patrol along the Forward Line of Own Troops (FLOT), abandoning the conventional strategy of a fixed forward line with major units massing against narrow frontages to engage the LTTE cadres and press the attack on a broad front. (www.moore.army.mil, n.d.) The Small Teams included Special Forces operating deeply and a unique Sri Lankan innovation: significant numbers of well-trained SIOT operating closer. The much increased 10,000 strong Special Forces proved to be quite effective in hitting LTTE military leadership targets, taking out very seasoned commanders when they were most needed, and seriously upsetting the rigid hierarchical command structure. Army Chief

General Fonseka, who developed the SIOT idea, said of them: "We also battled with four-man teams, trained to operate deep in the forest, be self-reliant and function autonomously. Therefore, a battalion had a lot of four-man units, which allowed us to attack from larger fronts. There were 1500 SIOT-trained soldiers when Eelam War IV began; by 2008, there were more than 30,000. Therefore, these Small Teams operations greatly influenced the success of the war against LTTE.

## VII. LESSON LEARNT

- J Deployment and use of new strategies of elite forces with mobility in time and space were a force multiplier. The flow of accurate and timely information by elite troops operating deep in the LTTE rear areas, on the intentions of the LTTE, its capabilities, and weaknesses enriched the visualization of the battlefield by commanders at all levels.
- J The employment of small teams of Special Operations Forces facilitated to shape of the battlefield for the infantry formations to exploit success whilst threatening the centre of gravity of the LTTE by eliminating High Value Targets and High Payoff Targets.
- J The specially trained small groups of infantry and Special Operations Forces were the leading fighting components of the fighting forces and maintained attrition by threatening the leadership of the LTTE. It caused the LTTE to cater to their maximum forces on the front line by minimizing the infiltration of the Armed forces on multiple fronts.
- J LRRP forces made a huge impact in defeating the LTTE by conducting several attacks on High-Value Targets and Payoff Targets and committing their reserve in the rear. These operations hinder the movements of the LTTE leadership and hinder the fighting power of the tactical elements. The acquisition of intelligence that remarkably contributed to increasing the battlefield awareness of strategic, operational, and tactical levels about the LTTE's preparation for battle

- ) The advanced training methods of the Special Operations Forces vastly facilitated the infantry battalions to operate in isolation. Further, SIOT teams in infantry divisions made the fighting force available along the fighting areas whilst maintaining momentum throughout the operation. Focused training programs such as Advanced Infantry Platoon Training (AIPT) and Special Infantry Operation Training (SIOT) to develop small group skills contributed significantly to identifying targets and engaging them effectively.
- ) Assistance provided by other arms and services during battles led to the seizure of the initiative of the LTTE and compelled them to react in circumstances unfavorable to them. Assistance provided to the infantry formations at critical stages of the conflict had a greater bearing on minimizing casualties and boosting morale.
- ) Timely information gathered through the Sri Lanka Air Force with close coordination made the small teams more effective and deadly force which made accurate targets. Their mobility helped to deploy, redeploy, and casualty evacuation on the battlefield without any delay.
- ) The use of indirect fire with the precise information passed by the small teams made more threat to the LTTE elements and it caused the LTTE to hinder their free movements. The administration of the LTTE was scattered by these indirect attacks.
- ) Coordinated attacks on the LTTE defenses and rear areas by small teams overloaded the LTTE military leaders and their decision-making process. This kind of simultaneous encounter also compelled the LTTE leaders to commit their reserves prematurely.
- ) Effective domination in the rear areas by the small teams mitigated the prospects of the LTTE disturbing the Security Forces' line of communications and ensuring a smooth flow of men and material to the battlefield. Further, these dominations curtailed the LTTE strategy to disperse the Security Forces elsewhere.
- ) The mission command maintained by the small teams made them make timely decisions and it gave the initiative to the team leaders of small teams. The commanders had effective

communication with the small teams which helped them to mobilise them whenever needed.

- ) The innovations adopted by the small teams such as locally developed equipment/ material to address battlefield requirements such as remote-control devices, claymore mines, clothing food, and medicine assisted in augmenting survival on the battlefield.

## **VIII. RECOMMENDATIONS**

1. Small Team operations made a significant impact on the winning of humanitarian operations against LTTE. The prominent results achieved through the Small Teams tactics were made famous around the world and adopted by the Sri Lanka Armed Forces.
2. The use of Small Team tactics during battalion training will enhance the skills of the infantry troops and will develop their personal skills and battle readiness.
3. Use of advanced equipment such as communication equipment and navigation equipment will enhance the mobility and fighting power of the small teams. Therefore, it is pertinent to use such equipment to face future threats.
4. Joint operation training with the naval and air force will enhance the joint operational structure and the troops will have the ability to incorporate with the sister services. Small teams training with the sister services will make them understand the capabilities and weaknesses where they will retain the initiative with them when require the use of them.
5. Further training with foreign nations will enhance their ability to acclimatize to the present advancements and techniques. More training with the foreign forces will be an added advantage when the situation arises.

## **IX. CONCLUSION**



Sri Lanka's Armed Forces have used many war strategies to win the protracted war against LTTE. In the fourth stage of the war, which erupted under the cause of securing humanitarian needs against LTTE, the Sri Lankan Army used different strategies, tactics, and techniques and employed procedures to achieve their targets on the battlefield. "You must adopt guerrilla tactics, strategies, and procedures on the battlefield if you want to defeat a guerrilla". These are the main strategies the Sri Lanka Army and Special Operation Force used in the final stage of the conflict. The Small Team operation against LTTE during the war was often conducted by specialized units within the Sri Lanka Army, such as the Commando Regiment and Special Forces Regiments. These Small Team operations were designed to carry out specific objectives with precision, agility, and flexibility during the war. Key aspects of military small group operations include such as Teamwork, Flexibility, Stealth and Surprise, Specialization, Risk, Precision, Infiltration, and exfiltration. The fourth stage or final push to defeat the LTTE took place from approximately 2006 to 2009. The general outline of the operational framework that the Sri Lanka Army employed in its efforts against the LTTE is Clear and Holds operations, Surveillance and Intelligence, Counter Insurgency Tactics, Amphibious and Arial Assault, Humanitarian Operation, Use of SOF, and Psychological Operations. Here, a vital factor was how these Elite Forces Small teams shaped the battlefield during stipulated operations. for that used strategies were: Attrition, Flank Protection, Counter Penetration Tasks, Destruction of Strong Points, Rescue Operations, Rear Area Security, Isolation of LTTE Positions, and Deep Operations. Hence, preserving special forces tactics, techniques, and procedures will be compromising when there is no clear enemy in the post-complete era. To maintain the soldier's skill and will can be achieved through continuous training and exercises.

Sri Lanka's Armed Forces have used many war strategies to win the protracted war against LTTE. In the fourth stage of the war, which erupted under the cause of securing humanitarian needs against LTTE, the Sri Lankan Army used different strategies, tactics, and techniques and employed procedures to achieve their targets on the battlefield. "You must adopt guerrilla tactics, strategies, and procedures on the

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### References:

1. Dharmaratne, B.N. (2011). *How Elite Forces throttled LTTE*. [English] Available at: [https://sundaytimes.lk/110605/News/news\\_19.html](https://sundaytimes.lk/110605/News/news_19.html) [Accessed 13 Aug. 2023].
2. Hameed, S. (2015). *ECHO GROUP*. First Edition ed. Kandy: International Centre for ethnic studies in Kandy, p.xiv.irp.fas.org. (n.d.). *INTRODUCTION TO SPECIAL OPERATIONS*. [online] Available at: [https://irp.fas.org/agency/dod/socom/sof-ref-2-1/SOFREF\\_Ch1.htm](https://irp.fas.org/agency/dod/socom/sof-ref-2-1/SOFREF_Ch1.htm).
3. Layton, P. (2015). *How Sri Lanka Won the War*. [online] TheDiplomat.com. Available at:

<https://thediplomat.com/2015/04/how-sri-lanka-won-the-war/>.

4. www.moore.army.mil. (n.d.). *U.S. Army / Infantry Magazine*. [online] Available at: <https://www.moore.army.mil/infantry/magazine/issues/2013/May-June/Welch.html> [Accessed 10 Aug. 2023].
5. www.moore.army.mil. (n.d.). *U.S. Army / Infantry Magazine*. [online] Available at: <https://www.moore.army.mil/infantry/magazine/issues/2013/May-June/Welch.html> [Accessed 10 Aug. 2023].

# Geopolitical Struggle in Indo-Pacific: A Case Study on AUKUS

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**Abstract** - Indo-Pacific region has become one of the key strategic hubs where geopolitical confrontations evolve and develop day by day. These confrontations are influenced not only by the regional stakeholders but also by the extra regional stakeholders in which they try to secure their geopolitical interests in line with their national interests under a balance of power approach. It is of utmost importance to understand the geopolitical struggle that persist between powerful countries in and out of Indo-Pacific region. This paper seeks to shed light on the newly formed security partnership: AUKUS under a geopolitical perspective and to highlight its influence to evolving Indo-Pacific region. Organic State Theory and Rimland Theory will be incorporated in the paper to critically analyse AUKUS as a case study in the struggle for power in geo-strategically significant Indo-Pacific region.

**Keywords** – Geopolitical Interests, National Security, Power

## 1. INTRODUCTION

Geopolitical Significance of Indo-Pacific Region -

Indo-Pacific region includes over half of world's population, has 60% of global GDP with 2/3 of global economic growth including supply chains and seven of the world's largest militaries. In considering the geographical significance, 65% of the world's oceans and 25% of land is there in this particular region (Whitehouse, 2022). By combining the countries and islands of the Indian Ocean and the

Pacific Ocean, the physical presence of Indo-Pacific has become very crucial and significant in terms of geopolitics in the modern international system. Consisted of world's biggest ports, airports and 20 out of 33 megacities in the world, Indo-Pacific has become a vital commercial hub (Eric, 2021). Due to ever increasing geopolitical significance, Indo-Pacific supports emerging economies and growth markets of globe including European companies.

The region includes newly developed regional and extra regional partnerships which include both state and non-state actors which directly impact for geopolitics of the region.

It is visible that new alliances and partnerships in the region are directly enhancing tension among regional players dragging Indo-Pacific into a security dilemma. From another stance, Indo-Pacific has become more vulnerable for traditional as well as non-traditional security threats due to power struggle and tensions among regional and extra regional state, non-state actors. Amidst these challenges, density of population, pollution, threat to biodiversity and climate, violations of international law, transnational organised crime, nuclear proliferation, insecurity of maritime borders etc. could be highlighted.

## II. LITERATURE REVIEW

The research paper 'AUKUS Alliance: United States Strategic Interest in Indo-Pacific' written by Audry Anjani of Indonesian Defence University has

a limited scope related to AUKUS. It has focused on highlighting the strategic interests of USA toward Indo-Pacific region in terms of AUKUS and author has discussed American point of view in terms of securing their strategic interests in the region which reminds the geopolitical struggles in Indo-Pacific.

The recent research article 'AUKUS: The Changing Dynamics and Its Regional Implications' written by M Cheng to European Journal of Development Studies, has highlighted impacts of this new grouping to region of Indo-Pacific, specially the impact it will create for ASEAN, China and South Asia, East Asia etc. However, the aim of this research article is to critically analyse the impact of AUKUS to various stakeholders in international system. This research article will answer the questions; what are the views of different countries regarding AUKUS and what are the impacts of AUKUS in accordance with geopolitical theories and SWOT analysis.

### III. RESEARCH METHODOLOGY

The methodology of this research is qualitative method in which the case study was conducted using two geopolitical theories to analyse qualitative data.

#### *Theoretical Insights*

##### *1) Organic State Theory*

The term geopolitics in international relations refers to 'how politics play a role in geography and influences different geographic attributes such as political borders' (Arise, 2021).

In analysing the geopolitics, Friedrich Ratzel has introduced Organic State Theory which gives the idea that, political entities, such as countries, behave in a way not too dissimilar from that of living organisms. As such, 'countries behave like organisms in that they seek nutrition to survive. The nutrition in the country's case is land (physical) territory. As an example, it was used by Adolf Hitler to justify his

ruthless expansion of Nazi Germany' (Arise, 2021) the organic theory, political entities struggle to expand their territory in terms of expanding their power and survival in the similar manner where a living organism pursues nourishment from food to survive. Based on these ideas, AUKUS can be interpreted in a manner where the members involved are trying to increase their living space and influence to secure their own geopolitical interests as well as their national power and security. As an example, US military bases are situated in Indo-Pacific; Diego Garcia and they will be further expanded via AUKUS.

##### *2) Rimland Theory*

Alfred Thayer Mahan, a US Naval Officer and a Historian has first emphasized that sea power is superior to land power. In 1944, Spykman introduced the theory in his book 'Geography of Peace' by considering geographical features as important determinants of foreign policy. There he argues that sea power is more important than land power by mentioning that sea power has faster movement, greater accessibility and 2/3 of the world's population. He has convinced that 'it is a combination of land and sea powers controlling the rimland that would in all probability control the essential power relations of the world'. (Aris, 2021) Furthermore, the theory implies that who controls the rimland rules Eurasia; who rules Eurasia controls the destinies of the world (Aris, 2021).

As such, the Rimland Theory can be applied to AUKUS where, the partnership seeks to expand sea power and capabilities of the members. As an example, Australia will counter Chinese expansion in South China Sea via AUKUS by claiming ownership of the sea for themselves as well. More specifically, he argues that, to survive, a political entity requires nourishment to gain political power.

## *AUKUS*

AUKUS is a new trilateral military partnership and a historic security deal which was announced on 15 September 2021. This strategic partnership collaborates United States of America, United Kingdom and Australia enabling Australia to build nuclear powered submarines for the first time. The new partnership was announced by Prime Ministers, Scott Morrison of Australia, Boris Johnson of United Kingdom, and President Joseph R. Biden of USA. The three members have claimed that the main goal of this tripartite alliance is to protect and preserve security and stability in Indo-Pacific under a rules-based international order. However, they have also claimed that AUKUS partners will share ‘military capabilities and critical technologies, such as cyber, artificial intelligence, quantum technologies, and undersea domains’ as well (Jamal & Samuel, 2022).

When considering the term AUKUS, some media commentators have depicted it as a new alliance with the idea of a defence pact. But security analysts have portrayed it as a new trilateral military and a political alliance. Similarly, some analysts have mentioned the alliance as an Asian NATO which will highly influence for geopolitics in Indo-Pacific region. As such, it is the only newly emerging multilateral military alliance in Asia-Pacific region in the past three decades. Although AUKUS countries do not mention specifically that they will counter Chinese expansionism in Indo-Pacific via this security agreement, it is clear that one objective of giving Australia with nuclear powered submarines is to have deterrence against Chinese geopolitical authoritative behaviour in the region. Furthermore, it is expected that this agreement will create a considerable cost and technical challenges for the partners. However, it has been estimated that Australia will be able to deploy at least eight nuclear submarines from 2030-2040.

It is also expected that USA and its allies will have to make challenging decisions about where to build AUKUS in Australia. The group is also conscious on the response of China regarding the pact as there is a possibility of China in increasing security cooperation with North Korea and Russia. (Bert, 2022). It is noticeable that, with this new grouping, Australia will become the seventh country in the world with nuclear powered submarines becoming a major symbol of military power in the region. From the other hand, AUKUS depicts Biden administration’s foreign policy vision of expanding US alliances and partnerships.

## V. PRESENT STATUS

In considering the present status of AUKUS, in February 2022, the Exchange of Naval Nuclear Propulsion Information Agreement was implemented enabling AUKUS partners to share naval nuclear propulsion information trilaterally. In terms of nuclear stewardship, combined teams from three countries have visited sites in Australia to baseline its nuclear stewardship, infrastructure, workforce, industrial capabilities and requirements. Similarly, initial steps are underway to ensure that Australia has a workforce with necessary skills, training, and qualifications to build, operate, and sustain conventionally-armed nuclear-powered submarines. Apart from these, three partners will use their advanced capabilities, undersea capabilities, quantum technologies, artificial intelligence and autonomy, advanced cyber, hypersonic and counter-hypersonic capabilities, electronic warfare etc. (Whitehouse, 2022).

## VI ANALYSIS

### *Views of Member Countries*

1) Australia - As the member getting direct benefits of AUKUS, Australia views it as ‘a forever partnership for a new time between the oldest and most trusted of friends’ (Cheng, 2022). Australia

is a middle power in the region, but it has a long term prevailing identity dilemma of being neither East nor West. It is considered that its body is in Asia, but its soul is in Britain and America as they are most trusted friends. Therefore, it is expected that AUKUS will help her to expand her power by transforming the country's domestic economy in the region. Recently, Australia has decided to get rid of its dependence on resource export to China.

Therefore, Australia has significantly increased its investments, manufacturing, defence industry and exports with western countries. As an example, Australia has been able to receive high-end military technology from US in areas such as hypersonic missiles and military drones. (Cheng, 2022).

2) USA - As the only island in the world facing both Pacific and Atlantic oceans, the country has geopolitical interests towards Indo-Pacific since years and they have adopted different strategies such as Free and Open Indo-Pacific, aligning with QUAD etc. to expand their power in the region. AUKUS is one such initiative where USA will export and transfer nuclear technology to rally its followers with the intention to command the seas while maintaining strategic dominance in international affairs. Although USA is in the understanding that such a move will ignite an international uproar, and there will be voices raised from the region itself, she is determined to gain geopolitical advantages from Indo-Pacific.

According to the security analysts, AUKUS is a focal point in US global strategy because, US has understood that Chinese rise in Indo-Pacific and Eurasia is difficult to counter. Moreover, the "comprehensive strategic partnership of coordination" between China and Russia, two Eurasian land powers, is hard to shake. Additionally, the disparities between US and Europe has broadened whereas former President Trump and

Brexit mark the end of the era of sea power controlling continental European affairs since Industrial Revolution, and Europe led by land powers of Germany and France is bound to resist the ordering of the US and increasingly pursue "independence" for its own interests. (Cheng, 2022)

3) United Kingdom - After withdrawing from European Union, Britain has now entered into new initiatives to secure her geopolitical interests in the region as well as in the extra regions. To strengthen its influence in international affairs, UK willingly take part in AUKUS alliance. Similarly, it urgently needs a "white alliance" to recover itself due to setbacks in Anglo-American relations under Trump administration and the rupture of cultural cognition in US. (Cheng,2022)

#### *Response by Other Countries*

1) France - In 2016, an agreement was signed of 66 billion dollars to provide submarines from France to Australia. Therefore, with cancellation of the deal, France has stated its mistrust and she has begun to negotiate new relations with China. 'Like all European countries, France is concerned with security of Asia and for free passage of goods and personnel through the waters of South and East China Seas. By limiting French influence in shaping Asian security system, USA has essentially taken unilateral leadership to determine the balance of power in the region and military strategy that would be pursued to contain China' (Kolodziej, 2021). So, it is clear that US has already missed a powerful strategic partner from Europe increasing the complexities.

2) China - As a leading power in Indo-Pacific, China sees AUKUS as a threat with a destructive impact to its own geopolitical periphery as well as to the international peace and stability. Further, China is in the idea that regional security dilemma will be increased as nuclear powered submarine is an embodiment of military capability.

Chinese government sees AUKUS as an alarm on countering its new developments specially in South China Sea. Also, they are in view that AUKUS is a circle which keep aside China and would evolve as an Indo-Pacific NATO.

3) ASEAN - As a source of powerful regional integration, ASEAN has always adopted a strategy of great power balance to keep stability within the region. But now, these countries would be caught in a security dilemma because of AUKUS. From one hand, it could intensify arms race in the region. It needs to be notified that as the situation in South China Sea has begun to intensify, many nearby countries have modernised their naval forces. As an example, since the beginning of 21st century, the ASEAN members: Malaysia, Indonesia, Vietnam and others have already introduced conventional powered submarines and other types of surface vessels from Germany and Russia to face future threats.

However, as the nuclear submarines possess strong cruising ability with a high navigational speed, they can usually be equipped with nuclear missiles in which, their offensive, lethality and deterrence are not comparable. Therefore, ASEAN will be at a security dilemma on its two neighbours: Australia and China (immediate neighbour and unique economic and trade partner) and, the members will face challenges in relying upon collective defence in seeking common security. Therefore, they need to focus more on securing the territorial integrity and sovereignty of individual states based on their geopolitical as well as national interests.

In furthermore analysing viewpoints of neighbouring countries in the region, some have expressed mixed reactions towards AUKUS. Malaysia, Philippine and Indonesia have implied that AUKUS will increase regional arms race specially in South East Asia while

increasing South China Sea disputes. Cambodia has expressed its concern on issues that AUKUS will cause for commitment of international community on nuclear non-proliferation. Specially, United Nations Treaty on the Non-Proliferation of Nuclear Weapons has prohibited Australia from manufacturing or acquiring nuclear weapons whereas naval reactors are exempted from nuclear safeguards.

Therefore, other countries are in suspicion that Australia will exploit this loophole by using fuel used to power the submarines' reactors to develop nuclear arms as well. However, in contrast, Manila's Secretary of Defense Delfin Lorenzana and Foreign Minister Teddy Locsin has stated that Australia has every right to strengthen its defense. In addition, Thailand, Singapore, and Vietnam have also stressed that each country is responsible for their own security but those measures should not cause any harm to region. Another point to be noted here is, there is a possibility of expanding AUKUS to other powerful Asian countries such as Japan, India and South Korea.

In moreover considering the impact of AUKUS, it will influence other security alliances in the region such as ANZUS and Five Eyes Intelligence Alliance. In this scenario, US is in the idea that South Korea should also be included in its Five Eyes Intelligence where other members are Australia, UK, Canada and New Zealand. In this year there has been a renewal of a military pact between USA and Philippines which allows US troops to be stationed in Philippines. Another unilateral Five Power Defence Arrangement includes Australia, UK and New Zealand alongside Malaysia and Singapore. All these groupings clearly indicate how USA and other powers try to secure their geopolitical interests in Indo-Pacific under Organic and Rimland theories.

In analysing AUKUS under a geopolitical perspective, SWOT analysis could be employed where strengths, weaknesses, opportunities and threats could be discussed with a broader understanding.

#### *Strengths*

Being considered as Indo-Pacific version of NATO, security analysts are in the idea that AUKUS has changed the institutional architecture of Indo-Pacific. After implementing Free and Open Indo-Pacific Strategy and being a part of the emerging Quadrilateral Security dialogue, USA has rebooted Pivot to Asia Strategy of Obama administration and Biden administration has furthermore broadened their geopolitics from Asia to Indo-Pacific. From one hand, it could be considered a strength whereas the region will receive benefits of technology to strike a balance of power amidst the powerful regional players. From other hand USA will use AUKUS as a geopolitical strategy to weaken the power of China where as they use NATO to expel power of Russia in Europe.

Apart from AUKUS, USA, UK and Australia are close security partners where their strategic thinking, military interoperability are at a high level. Their co-operation is old since ages where they co-operated during World Wars, Gulf War, coalitions in Iraq and Afghanistan as well. However, 'US, UK and Australia are seen as champions of what they refer to as 'rules-based' liberal world order and upholders of democracy and human rights. Thus, when Morrison speaks of a "forever partnership", this is not an idle rhetoric' (Wilkins, 2022). Therefore, it is expected they will strongly align with each other in future as well.

Focusing on other strengths, benefits of a nuclear submarine fleet are, it could defend shipping lanes from Persian Gulf to the North Pacific Ocean and they can travel at a faster speed in comparison to conventional submarines and stay on station for a

longer period of time. The members aim to safeguard undersea fibre optic cables that provide military and civilian communication for West, because as both China and Russia own cyber and submarine technology, there is a possible threat of tapping these cables, snooping and collecting valuable data. It will help them to protect security of their undersea cables.

Further, Australian government sees AUKUS as a way of addressing and securing the degrading security environment in Indo-Pacific region. It also wishes to perceive expected security interests of becoming a country with nuclear powered submarines to further develop strategic partnerships with Japan and India along with other regional states.

#### *Weaknesses*

It is obvious AUKUS has some weaknesses in terms of its arrangement. First, in considering the announcement of AUKUS by its members through a joint press release, Morrison has mentioned it as 'an enhanced trilateral security partnership' whereas, Biden has pronounced it as a 'new phase of the trilateral security cooperation' and Boris Johnson has used the terminology 'new trilateral defence partnership'. Therefore, it is clear that during these different interpretations, no one has used the term alliance or treaty convincing that they focus on solving matters related to security and defence coordination in the indo pacific area and not forming a trilateral treaty alliance or an Asian NATO.

Based on above facts, AUKUS lacks the definition of a military alliance or a pact as it does not contain a formal security treaty between members. As an example, Article V of NATO treaty mentions on provision for collective defence. Due to absence of a direct provision in this nature for AUKUS, it has



failed to be qualified as an alliance according to analysts.

Next, AUKUS members need patience despite any political governance change in coming years, consistency in funding, issues related to management, programming, pressure from outside etc. Considering environmental concerns, Morrison has said that 'Australia has no plans to acquire nuclear weapons and this proposal will remain consistent with Australia's longstanding commitment to nuclear non-proliferation'. (Patricia, 2021). This indicates that Australia will ensure obligations as a non-nuclear weapons state with International Atomic Energy Agency. However, US and UK submarines currently use 93 to 97% of HEU which is the level of enrichment for Uranium in nuclear weapons (Patricia, 2021). Therefore, use of these substances may cause impacts to environment. According to NPT, each state party to the treaty should not source special fissionable material, equipment or material especially designed or prepared for processing, use or production of special fissionable material to any non-nuclear-weapon state for peaceful purposes which applies to Australia as well. However, as International Atomic Energy Agency has no authority to supervise nuclear materials used in nuclear submarines, it creates a situation for Australia to build nuclear weapons as it is rich in uranium reserves. As an example, Australia has a history of making atomic bombs where the first British nuclear tests were conducted in Australia. If US and UK transfer technology of uranium enrichment to Australia for nuclear fuel, environmental concerns will rise impacting international security and stability.

#### *Opportunities*

This partnership is a good opportunity for US as it marks a massive shift in US global strategy where the redistribution of its forces in Indo-Pacific takes place

empowered with military capabilities. In considering QUAD, Japan may also wish to seek nuclear submarine technology in future under a US-Japan alliance or USA- Japan- Australia partnership. USA will explore possibility of expanding AUKUS to other Indo-Pacific countries to broaden their geopolitics in the region.

Idea of Minilateralism could be derived in further analysing opportunities of AUKUS for Australia. Whilst being a member of QUAD and AUKUS, the country targets for a minilateral security co-operation between a small group of like-minded countries with common shared values and interests. Further, Australia wishes to fill the gaps it faces in ANZUS, ASEAN Regional Forum etc. by strengthening another layer of regional security architecture.

#### *Threats*

In examining possible threats and challenges of AUKUS, first, it will disturb regional integration and order of Indo-Pacific region as well as the international security due to potential escalation of arms race, nuclear threat and as such, Australia will be isolated from Asia and Europe specially due to views of France, ASEAN, China and also, negativities come from the country itself; former Australian Prime Minister Keating pointed out that it was a disgrace for Morrison government to pin Australia's future on US. (Cheng, 2022).

As other examples, in 1995 the Treaty of SEANWFZ was signed by ASEAN members to establish South East Asian region as a region free of nuclear activities including ban on manufacture, testing, having control over and possession of nuclear weapons in Southeast Asia. However, AUKUS by openly providing nuclear submarine technology would disturb this nuclear non-proliferation regime. Although nuclear submarine is not a nuclear weapon or a nuclear explosive device, it can carry nuclear weapons and deliver weapons of

mass destruction. There are only six countries in the world with nuclear submarines: US, Russia, China, UK, France and India and all of them have nuclear weapons. As nuclear submarines are inseparably linked to nuclear weapons, Australia could produce nuclear weapons in future by endangering the strategic balance.

Influence of China is the greatest threat that AUKUS will face in future. As the partnership expects to counter Chinese expansion specially in South China Sea, it predicts possibility of a collective security deterrence by China, Russia and even North Korea in near future escalating the geopolitical struggle in the region.

#### *Conclusion*

Views of different states and stakeholders regarding AUKUS clearly support to analyse Organic State Theory as well as Rimland Theory where countries engage in a geopolitical struggle to ensure their survival in the international system. Based on their varied national interests, power seeking as well as geopolitical interests, countries try to get the maximum advantage into their side amidst any challenge. It is clear that AUKUS marks a significant dimension in geopolitics where balance of power and collective security will be questioned in near future.

Specially countries like India, China, Japan, Russia, France as well as North Korea will have direct impacts amidst this power struggle which will affect whole international system. However, Indo-Pacific has become the most dynamic region in the world and a major engine driving world economic growth. Peace, development and cooperation are the shared visions of the Indo-Pacific region. Therefore, to achieve this goal, actors in the region, especially great powers, must abandon Cold War mentality, military

deterrence, armed confrontation and escalating arms race by disrupting regional order.

#### REFERENCES

- Beyza, U. *Kerry, B.* et al. (2021 September 16). Is the AUKUS alliance meaningful or merely provocation? *Chathamhouse*. Retrieved from <https://www.chathamhouse.org/2021/09/aukus-alliance-meaningful-or-merely-provocation>
- Bert, C. (2022). The Australia, United Kingdom, United States (AUKUS) Nuclear Submarine Agreement: Potential Implications, *The FORCES Initiative*, Purdue University, College of Liberal Arts
- Cheng, M. (2022). AUKUS: The Changing Dynamic and Its Regional Implications, *European Journal of Development Studies*. *ejdevelop*, ISSN:2736-660X, DOI:10.24018 /ejdevelop.2022 .2.1.63
- Jurnal, D. P. (2022). AUKUS Alliance: United States Strategic Interest in Indo-Pacific. *Nomor1*, Volume 8, E-ISSN 2746-8496, Faculty of Defense Strategy. The Republic of Indonesia Defense University
- Lewis, P. (2021). Is the AUKUS Alliance Meaningful or Merely Provocation?. *Chathamhouse.org*. Retrieved from <https://www.chathamhouse.org/2021/09/aukus-alliance-meaningful-or-merely-provocation>
- Lotus, A. (2021 May 31). Organic State Theory (Friedrich Ratzel). *UPSC Geography*. Retrieved from <https://lotusarise.com/organic-state-theory-friedrich-ratzel-upsc/>
- Lotus, A. (2021 Jan 25). Heartland and Rimland Theory. *UPSC Geography*. Retrieved from <https://lotusarise.com/heartland-and-rimland-theory-upsc/>
- Mellissa, Z. (2021 October 10). Aukus alliance: What is it, what does it have to do with China, and why is France angry?. *South China Morning Post*.

Retrieved from  
<https://www.scmp.com/news/china/diplomacy/article/3151700/aukus-alliance-what-it-what-does-it-have-do-china-and-why>

Whitehouse. (2022 April 05) FACT SHEET: Implementation of the Australia – United Kingdom–United States Partnership (AUKUS). *Whitehouse.gov*. Retrieved from

Thomas, W. (2022 April 20). Is AUKUS really an ‘Alliance’?. *Institute of South Asian Studies*. Retrieved from  
<https://www.isas.nus.edu.sg/papers/is- aukus-really-an-alliance/>

<https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/05/fact-sheet-implementation-of-the-australia-united-kingdom-united-states-partnership- aukus/>

# Role of Social Media and Online News in 2022 Sri Lankan Riots and Utilization of OODA Loop Based OSINT Framework

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**Abstract** - Prolonged riots that violate legal rights and peaceful limits, turning violent with the potential to lead to anarchical social unrest, are perceived as threats to national security. In the digital age, these threats are exacerbated by the impact of online news and social media. Activists often utilize platforms such as Facebook, YouTube, and Telegram for riot organization without relying on traditional hierarchical structures. This situation poses significant challenges for national security stakeholders, requiring them to respond swiftly to the rapidly evolving online landscape.

Open-source intelligence (OSINT) proves valuable in comprehending the role of social media in riots. This paper presents a case study of the 2022 riots in Sri Lanka, delving into social media's contribution to propaganda, organization, and mobilization. To achieve this, temporal data regarding hashtags, growth in online group membership, call-for-action posts, and YouTube Live streams were collected for analysis. Furthermore, an analysis of online news volume related to the riots was conducted using the Global Database for Events Language and Tone (GDELT) to gauge the intensity of the riots as depicted in media coverage.

Drawing from these insights and analyses, an operational framework is proposed for responding to the use of online news and social media in the context of riots. This framework incorporates elements from the OODA loop and other existing models and frameworks. It underscores the significance of proactive analysis of online and social media activities associated with riots and emphasizes the need for swift and effective responses to emerging threats.

This research delves into the impact of social media on riots, utilizing the 2022 unrest in Sri Lanka as a case study. The study adds to the growing body of literature on the utilization of online news and social media in riots, shedding light on the critical role of OSINT techniques in comprehending and addressing emerging threats.

**Keywords-** social media, open source intelligence (OSINT), riot mobilization.

## 1. INTRODUCTION

According to Boyd and Ellison (2007), social media refers to "web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system." These platforms enable users to interact, communicate, share content, and engage in various social activities online. In contrast, as defined by the Harvard Dictionary of Sociology (1991), a riot is a violent and disorderly public disturbance where a group of individuals engages in widespread chaos, aggression, property damage, or acts of violence. It is characterized by an escalation of tensions beyond peaceful protests, posing a threat to social order and stability.

Social media has become an increasingly important tool for organizing, mobilizing, and propagandizing riots around the world. With the rise of platforms like Facebook, YouTube, and Telegram, activists have been able to quickly and easily disseminate information and coordinate riots, often without the need for traditional organizational structures. Simultaneously, the use of online news sources has rapidly increased in contrast to traditional news outlets. However, the increased use of social media and online news sources presents potential challenges for governments and stakeholders. These challenges include the rapid spread of misinformation and disinformation, amplification of polarization, difficulties in analyzing and responding to the decentralized organization of events, privacy and security concerns, manipulation through influence campaigns, legal and regulatory complexities, and the delicate balance between freedom of speech and content control. Addressing these challenges requires proactive strategies and policies that promote the responsible use of these platforms while safeguarding democratic values and national security.

An effective approach to understanding and responding to the use of social media in riots is through the

use of open-source intelligence (OSINT) techniques. OSINT involves the collection, analysis, and dissemination of information from publicly available sources, such as social media platforms, news outlets, and other online resources.

By using OSINT techniques, researchers and practitioners can gain valuable insights into the patterns and trends related to the use of social media in riots, which can inform more effective responses to emerging threats.

This research presents a case study of the use of social media in organizing, mobilizing, and propagandizing riots in Sri Lanka during the period from April 1st to July 9th, 2022.

### **A. Background**

Sri Lanka had enjoyed nearly a decade of peace and harmony following the end of a 30-year civil war. However, major economic setbacks caused by the Easter Sunday bombings and the Covid-19 pandemic in the beginning of 2022 led to an intensified economic crisis that created chaos in the social harmony. This resulted in protests and riots, primarily driven by widespread dissatisfaction with the handling of the country's economy. While the causes of such campaigns are varied, they pose a threat to national security once they exceed peaceful nature and legal limits, causing harm to life and property. These riots were largely decentralized and involved a broad cross-section of society. The main demand was for the resignation of the President and other key officials, whom they were seen as responsible for the economic crisis, and demanded a complete system change. Protests under the main theme "Aragalaya" and the main slogan "Gota Go Home" were organized through social media and other grassroots channels. The government responded to the violent riots with measures including declaring a state of emergency, allowing the military to arrest civilians, imposing curfews, and restricting access to social media. This development emerged soon after the post-Covid digital boom. By the beginning of 2023, Sri Lanka had significant social media usage, with 7.2 million Sri Lankans, which is 32.9% of the total population, using social media. Out of these, 6.55 million use Facebook and 7.04 million use YouTube, according to Datareportal (2023).

### **B. Research Questions**

"How was social media utilized in propagandizing, organizing, and mobilizing the Sri Lankan riots, what is the intensity of this campaign and what would be the suitable pro-active OSINT methods to be utilized to analyse such situations in future?"

### **C. Research Significance**

Research and literature on the use of social media in mass riots and the use of OSINT in mass riot situations are rare and this research contributes to the growing body of literature and highlights the critical role of OSINT techniques in understanding and responding to emerging threats. This research is conducted based on human-verified to scrape and timely data and this research is further expandable.

## **2. LITERATURE REVIEW**

Social media has played a significant role in the organization and mobilization of riots around the world (Castells, 2015; Earl & Kimport, 2011; Tufekci & Wilson, 2012). As Tufekci and Wilson (2012) noted, social media platforms such as Facebook, Twitter, and YouTube have provided a new way for protesters to communicate and coordinate their actions, often in real time.

One way that social media has been used in the organization and mobilization of riots is through the dissemination of propaganda. Propaganda is defined as the use of information, typically biased or misleading, to promote a particular political cause or point of view (Jowett & O'Donnell, 2014). Social media platforms have been used to spread propaganda in a variety of ways, including the use of fake news stories, memes, and other forms of misinformation (Giglietto et al., 2019; Woolley & Howard, 2016).

Another way that social media has been used in the organization and mobilization of riots is through the creation of dedicated groups and pages on social media platforms. These groups and pages allow protesters to share information, coordinate actions, and mobilize support (Earl & Kimport, 2011; Tufekci & Wilson, 2012). For example, during the Arab Spring riots in 2011, social media was used to create dedicated Facebook groups for protesters in Tunisia and Egypt, which helped to mobilize support for the riots (Howard et al., 2011).

In addition to the use of propaganda and dedicated social media groups, social media has also been used to mobilize protesters through the use of hashtags. Hashtags are used to group together posts on a particular topic or theme, and can be used to create a sense of community and solidarity among protesters (Castells, 2015; Woolley & Howard, 2016). For example, during the 2013 Gezi Park riots in Turkey, the hashtag #occupygezi was used to connect protesters and to spread information about the riots (Tufekci & Wilson, 2012).

Despite the significant role that social media has played in the organization and mobilization of riots, there are

several research gaps that remain. One gap in the literature is the lack of research on the impact of social media on the outcomes of riots.

While there is evidence to suggest that social media has been effective in mobilizing protesters in democratic countries, it is unclear whether the same is true in non-democratic countries, where governments may have greater control over social media (Castells, 2015; Tufekci & Wilson, 2012). Finally, there is a need for more research on the ethical implications of the use of social media in the organization and mobilization of riots. While social media has provided a new way for protesters to communicate and coordinate their actions, it has also been used to spread propaganda and misinformation and has raised concerns about privacy and surveillance (Giglietto et al., 2019; Woolley & Howard, 2016).

Open-source intelligence (OSINT) is a valuable approach in the study of social media propaganda, organizing, and mobilizing of riots. According to Albayrak et al. (2019), OSINT provides an efficient way of collecting, analyzing, and interpreting data from various online sources such as social media platforms, forums, and blogs.

This approach enables researchers to obtain relevant information about a particular event, issue, or topic of interest from publicly available sources without having to rely on classified or confidential information. OSINT is a valuable approach for studying social media propaganda, organizing, and mobilizing of riots. It provides a cost-effective way of collecting and analyzing data from publicly available sources, enabling researchers to gain valuable insights into the tactics and strategies used by different groups and individuals. However, there are still several research gaps that need to be addressed to enhance the effectiveness and reliability of OSINT data in this field. Several models and operational frameworks have been proposed to observe, analyze, and counter social media propaganda, organizing, and mobilizing of riots using OSINT.

One such framework is the OODA loop, which stands for observe, orient, decide, and act. This framework was first introduced by military strategist John Boyd, and has since been applied to a wide range of contexts, including intelligence analysis and law enforcement. According to Zaman et al. (2019), the OODA loop provides a structured approach for processing large volumes of data and making quick decisions based on the available information. In the context of social media propaganda, organizing, and mobilizing of riots, the OODA loop can be used to identify key players and their tactics, assess the impact of their

activities, and develop countermeasures to disrupt their operations.

Another model that has been proposed is the Social Media Intelligence (SOCMINT) model. This model was developed by the UK Ministry of Defense to guide intelligence analysis in the context of social media. According to Ratcliffe and Shearer (2014), the SOCMINT model consists of four stages: collection, analysis, dissemination, and feedback.

In the context of social media propaganda, organizing, and mobilizing of riots, the SOCMINT model can be used to collect and analyze data from multiple sources, including social media platforms, forums, and blogs. This information can then be disseminated to relevant stakeholders, such as law enforcement agencies, government officials, and civil society organizations, to develop countermeasures and mitigate the impact of propaganda campaigns.

In addition to these models, several operational frameworks have been proposed for collecting, analyzing, and countering social media propaganda, and organizing, and mobilizing riots using OSINT.

One such framework is the Intelligence Preparation of the Information Environment (IPIE). According to Johnson et al. (2019), the IPIE framework provides a systematic approach to analyzing the information environment in order to identify key actors, their motivations, and their tactics. This information can then be used to develop countermeasures and disrupt propaganda campaigns.

Another operational framework that has been proposed is the Rapid Analytical War gaming (RAW) approach. According to Popp et al. (2019), the RAW approach provides a structured approach for analyzing complex situations and developing effective countermeasures. This approach involves the use of analytical tools, such as network analysis and sentiment analysis, to identify key players and their tactics. This information is then used to develop scenarios and test different countermeasures in a simulated environment.

Despite the potential benefits of these models and operational frameworks, there is still a need for further research to evaluate their effectiveness and to develop new approaches that are better suited to the evolving nature of social media propaganda, organizing, and mobilizing of riots using OSINT

### 3. METHODOLOGY

The research adopted a mixed-methods approach, combining qualitative and quantitative data collection and analysis. The study focused on the use of social media in propaganda organizing and mobilizing Sri Lankan riots, with an emphasis on the OSINT approach.

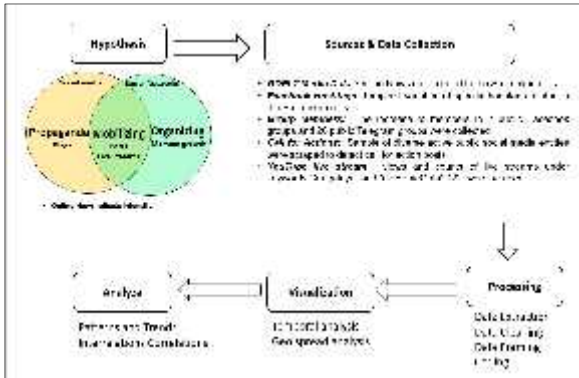


Figure 01. Methodology

**A. Hypothesis**

The study hypothesized that social media and social network platforms are being used as tools to organize and mobilize riots in Sri Lanka. Furthermore, it was hypothesized that propaganda through social media plays a critical role in shaping the public perception of the riots, the use of social media posts, and live videos allows organizers to mobilize support and direct action more effectively and online media attention on riots shows the intensity of the riot campaign.

**B. Sources and Data Collection**

The data sources used for this study were entirely dependent on public social media sources and none of the privacy details disclosed nor ethical and community rules of any social media platform were violated during the study. In addition, efforts were made to verify the credibility and authenticity of the sources through cross-referencing with other sources and fact-checking.

Temporal Data collection was carried out using manual and open-source online tools from public social media sources. The collection was conducted focusing on the following parameters:

*Hashtags:* The temporal variation of specific hashtags related to the Sri Lankan riots was extracted from Facebook to identify the pattern of propaganda

*Group Members:* The increase of members in two main public Facebook groups and 26 dedicated public Telegram groups were collected to identify patterns in the growth of online communities.

*Call for Actions:* sample of public media entities out of which, 70% Facebook, 15% WhatsApp, 10% Telegram and 5% Twitter e were scraped to detect call-for-action posts to determine the frequency and intensity of the calls to action.

*YouTube live stream:* YouTube views of live streams under keywords “Aragalaya” and “GoHomeGota2022” were scraped and analyzed to understand the mobilization and online engagement.

*GDELT Media Data:* Global Online News data related to the Sri Lankan riots from the GDELT project was collected to figure out intensity patterns through media attention on Sri Lankan Riots.

**C. Coding**

A coding scheme was developed based on the research questions and was refined through an iterative process to categorize the collected data. The hashtags were categorized based on their use for propaganda on hashtags with political affiliations, corruption-related issues and specific events. Groups were categorized based on platform and membership size over a specified period. Networking and the call for action were categorized based on location at the district level. The GDELT media data was used to provide additional insights into the broader context of the riots.

**D. Data Analysis**

The data collected were analyzed using a combination of quantitative and qualitative techniques. Quantitative analysis involves calculating frequencies and percentages of the coded data, while qualitative analysis involves identifying patterns and trends in the data. The findings were then triangulated with existing literature on the use of social media in propaganda organizing and mobilizing riots to draw conclusions and recommendations.

**4. RESULTS AND DISCUSSION**

**Sri Lanka Riots and Social Media**

Online news volume on selected keywords filtered by Sri Lanka in 2022 was utilized to get initial insight by identifying events and trends of the campaign. After visualizations, trends and impact levels of specific events such as Start of the riots on 31<sup>st</sup> March, Galleface occupation on 09<sup>th</sup> April, Violent mobs on 09<sup>th</sup> May and Climax on 09<sup>th</sup> July, protests to resign of president on 13 July and gradual decrease were clearly identified. However, this method in isolation is less proactive in dynamic

situations since media attention is gained mostly after the occurrence of such incidents.

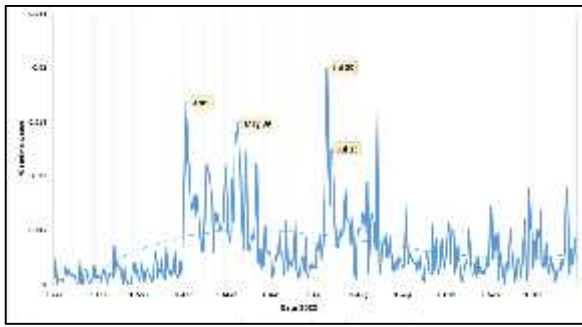


Figure 02: Global online news on Sri Lanka Protest

**A. Propaganda**

*1) Hashtags with political affiliations*

The Sri Lankan riots 2022 were mainly themed by the #GohomeGota2022 hashtag and it was used extensively throughout the social media campaign to oppress and urge the resignation of the president.

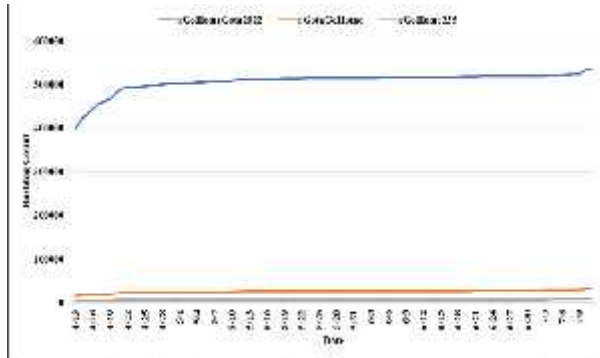


Figure 03: Hashtags with political affiliations

*2) Hashtags on Political security related Issues*

The economic crisis was identified as a major cause for the riots and “corruption” related propaganda and discussions were prominent during the beginning of the riots. Among them, #GiveUsOurStolenMoneyBack hashtag was used over 100K during the period.

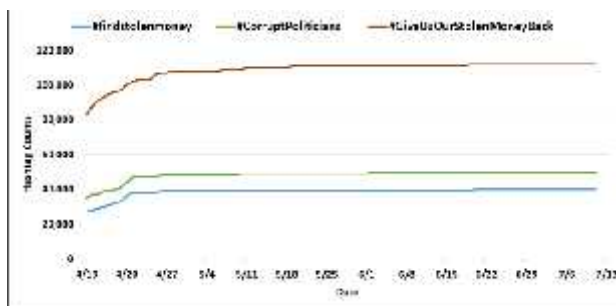


Figure 04: Temporal variation of issues related to hashtags

*3) Hashtags on Events*

There was an extensive propaganda campaign requesting famous “Anonymous” hacker groups' support to retrieve so-called stolen money and reveal corruption using #AnonymousSaveSriLanka hashtag. This campaign mostly consisted of fake news and disinformation. According to the graph, the popularity of this campaign exponentially increased between the 15<sup>th</sup> to 22<sup>nd</sup> of April and then faded out.

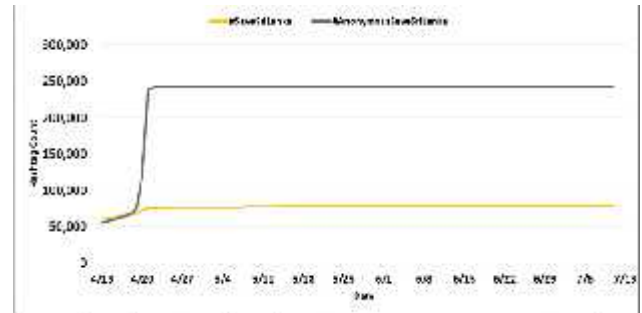


Figure 05: Temporal variation of event-related hashtags

**B. Organising**

Organising and networking is the next key consideration in analyzing riots. The organizing for mass riots initially started by requesting members to join Telegram groups created district-wise and simultaneously an affiliated main Facebook group named “Gohomegota2022” (referred to as Group A). Later many Facebook groups also emerged with similar names but “Gohomegota2022 (People Revolution)” (referred to as Group B) became the second most engaging group. Both groups were popular and active by July 09<sup>th</sup>, the member count was over 300k and 100k respectively. These groups were used to share thoughts and discussions as well as to encourage riot participation.

*1) Facebook Groups*

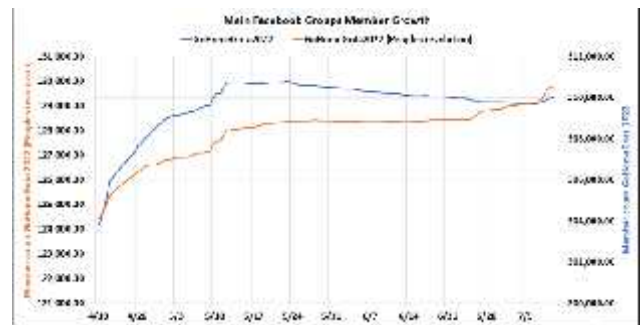


Figure 06: Member growth of Facebook groups

It is observed that the member growth rate of group A is higher in April which was the beginning period of the riots. Then both group's growth rates showed a sudden increasing trend after the May 09<sup>th</sup> violent mobs. Then after the later part of June, the Group B member growth rate increased in



contrast to Group A and continued until July 09<sup>th</sup>. This is a clear indication that organizing and networking increased for the climax on 09<sup>th</sup> July.

2) Telegram Groups

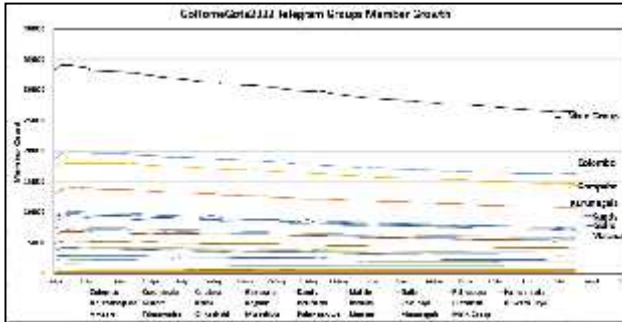


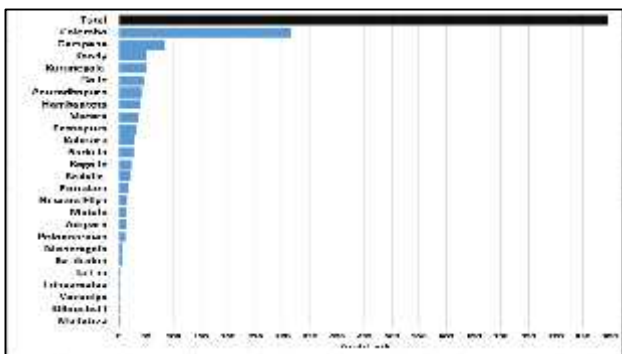
Figure 07: Member growth of Telegram groups

It is observed that the member growth rate of all the telegram groups initially increased were then gradually decreased over time. The main groups, Colombo, Gampaha and Kurunegala were the most engaged and active groups whereas Kandy, Galle and Matara were with medium member strength. Other groups with fewer members especially the groups related to Northern and Eastern districts were with lesser members and mostly inactive.

With above analyses, it shows that online activism on organizing and networking has shifted from Telegram to Facebook groups in the latter stage. WhatsApp groups also must have played a prominent role in networking and organizing but due to limited access and member limitation up to 256 (before November 2022) it is concluded that WhatsApp groups may have used in close circles.

C. Mobilising

A sample of active social media sources on Facebook, Telegram and WhatsApp were scraped to detect call-for-action posts from 1<sup>st</sup> April 2022 to 09<sup>th</sup> July 2022. This included graphical and textual content mentioning the date, place, and time of an organized event. Then it was



categorized by districts to identify the most active locations at the district level.

Figure 08: posts volume at the district level

As shown in Figure 08, 895 total unique call for action posts were detected and analyzed. As a result, Colombo, Gampaha, Kandy, Kurunegala and Galle were identified as the most active districts which also confirm the observation of mostly active telegram groups as discussed above.

Then the patterns identified were compared with global online news on Sri Lanka Riots extracted from the GDELTS Database to identify the intensity of the riots. It is clear from the correlations that riots received media attention afterward as shown in figure 09. In that, the correlation of riots hikes followed by media coverage indicates the intensity of the observed posts.

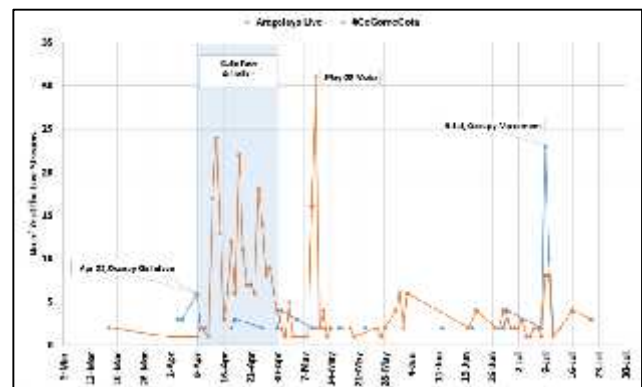


Figure 09: Post volume vs. online news volume

Live Streams on YouTube were identified as a key component to analyse since it indicates the live engagements with online activism. Number of Live Streams per day indicate the intensity of the mobilization activities and total live views indicate the online engagement with such activities.

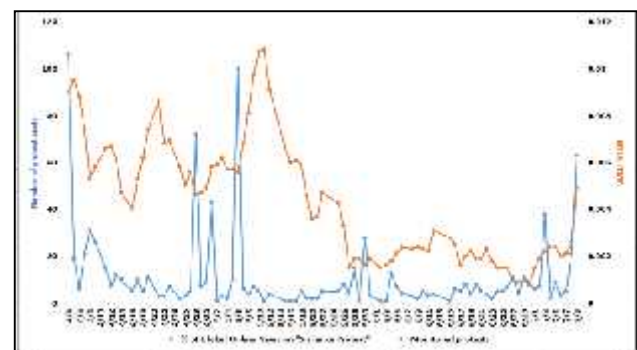


Figure 10: Number of YouTube Live Streams

Above figure indicates that #GoHomeGota themed activities were broadcasted mainly at the period of

Galleface occupation and May 09 mobs. Later during July 09 “Aragalaya” theme was used for online broadcasts.

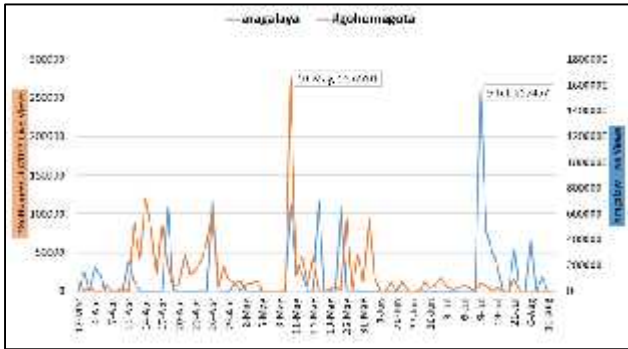


Figure 11: Live Views of YouTube Live Streams

However, when analysing number of views on each theme, “#GoHomeGota” themed live videos had over 10 million views in total and “Aragalaya” themed live streams had only 1.3 million views.

Both charts confirm that the intensity in online activism correspondent to the beginning of Galleface occupation after April 09<sup>th</sup>, May 09<sup>th</sup> and July 09<sup>th</sup> riot related incidents. It further correlates with the patterns of call-to-action post volume and online news volume.

**OODA LOOP OSINT APPROACH**

According to the analyses discussed in the previous section, it is proven that social media has played a key role in propaganda, organizing and mobilizing of “Sri Lanka riots 2022” campaign until it reached the climax on 09<sup>th</sup> July 2022 and anticipated a similar role in future mass riots too. Hence to detect such campaigns, a proactive OSINT approach is required. Based on the above results, the OODA loop (Observe, Orientate, Detect and Act) OSINT approach is proposed as follows.



Figure 12: OODA loop OSINT framework

**D. Observe**

Proactive observation of diversified and continuous expansion of updated sources and analysis of social media activity related to riots, including identifying indicators of mass mobilization. There are several indicators that can help to identify high-impact riots and occupy movements when observing social media. These include:

- a) *Volume of Social Media Activity:* A high volume of social media activity, such as a large number of posts, shares, and comments, can be an indicator of high-impact riots and occupy movements.
- b) *Trending Hashtags:* The use of trending hashtags related to a protest or occupy movement can also be an indicator of its impact.
- c) *Geographical Spread:* The geographical spread of social media activity related to a protest or occupy movement can be an indicator of its impact. If the activity is concentrated in a specific area, it may be a local protest. However, if the activity is spread across different cities or countries, it may be a more significant movement.
- d) *Involvement of Influencers:* The involvement of social media influencers or celebrities in a protest or occupy movement can be an indicator of its impact. These individuals have a large following on social media and can help to amplify the message of the movement.
- e) *Coordination and Organization:* The level of coordination and organization of a protest or occupy movement can also be an indicator of its impact. If the movement is well-organized and has a clear set of goals and demands, it is more likely to have an impact.
- f) *Response of Authorities:* The response of authorities to a protest or occupy movement can also be an indicator of its impact. If the authorities respond with force, such as by using tear gas or making arrests, it may be an indication that the movement is having an impact and is seen as a threat.

**E. Orient**

Analysis of the data to identify patterns and trends related to the use of social media in the riots, including:

- a) Identification of key themes or issues driving the riots

- b) Geographical location of protest activity and online conversations
- c) Identification of clusters, leaders or key figures within the riots
- d) The emergence of new actors or groups within the riots
- e) Identification of potential flashpoints or escalation points

**F. *Decide***

Based on the analysis of the data, make informed decisions about the appropriate response to the protest. Determine the level of threat posed by the protest and whether or not it requires immediate action. Decide on the appropriate messaging and actions to take in response to the protest, based on the goals of the response and the potential impact of the protest. Assessment of the data to determine the appropriate course of action, including:

- a) Identification of potential risks and threats associated with the riots
- b) Assessment of the likelihood of violence or other disruptive behaviour
- c) Determination of appropriate response strategies, such as engaging with mob leaders or law enforcement intervention
- d) Identification of opportunities for engagement or de-escalation

**G. *Act***

Take appropriate action in response to the protest. This may include deploying law enforcement or other resources to contain the riot, engaging with mob leaders to attempt to de-escalate the situation, or launching a counter-cognitive campaign to counteract propaganda and countering false information. Observe the response and adjust as necessary based on the ongoing situation. Implementation of the selected response strategies, including:

- a) Communication with stakeholders and partners to coordinate response efforts
- b) Mobilisation of resources to support response efforts, such as additional law enforcement personnel or community outreach teams
- c) Implementation of targeted interventions or initiatives aimed at de-escalating tensions and preventing violence

- d) Continual observation and analysis of social media activity and protest behaviour to inform ongoing response efforts.

The proposed framework for social media analysis prioritizes respecting fundamental rights such as freedom of expression and individual privacy. It strictly focuses on publicly available data, adhering to data protection laws and community standards. Transparent practices, ethical data usage, and collaboration with civil society and tech companies ensure responsible and unbiased analysis. By continuously evaluating and reviewing the process, stakeholders strike a balance between national security and safeguarding individual rights without violating any social media community standards

**H. *Challenges and Limitations of Implementing the Proposed Framework:***

- a) **Data Challenges:** Handling large volumes of social media data requires robust tools and resources for effective analysis, with privacy concerns and data protection laws adding complexity.
- b) **Real-Time Analysis:** The need for real-time analysis is crucial due to rapidly changing situations, but the time required for data processing can hinder timely insights.
- c) **Misinformation and Reliability:** Distinguishing between accurate information and misinformation on social media is challenging but crucial for reliable analysis, requiring careful verification.
- d) **Bias and Objectivity:** Human interpretation introduces biases that can impact the objectivity of findings, highlighting the need for unbiased analysis methods.
- e) **Expertise and External Influences:** Adequate technological expertise is essential for successful analysis, and the influence of foreign actors adds complexity to identifying genuine threats within social media conversations.

**I. *Overcoming the Challenges:***

- a) **Automation and AI:** Utilize AI and automation to streamline data processing and enable real-time analysis, improving efficiency.
- b) **Fact-Checking Mechanisms:** Implement reliable fact-checking mechanisms to identify and filter out misinformation, ensuring data accuracy.
- c) **Collaborative Partnerships:** Collaborate with tech companies and civil society organizations to access expertise and resources for enhanced analysis.

d) **Ethical Guidelines:** Establish and adhere to ethical guidelines to ensure unbiased analysis and responsible data usage.

e) **Continuous Skill Development:** Provide training and ongoing skill development for analysts to improve the quality of analysis and decision-making.

### COUNTER COGNITIVE OPERATIONS

In addition to proactive detection and analysis of social media activity related to riots, the recommended operational framework also emphasizes the importance of developing and implementing counter campaigns and measures against fake news and misinformation. These are important strategies to counteract the potential negative effects of social media on riots, such as the spread of rumours and false information.

Furthermore, it is important to continuously evaluate and adjust these strategies based on their effectiveness in countering the spread of false information. This can involve using sentiment analysis to measure the public's perception of the counter campaigns and measures and adjusting messaging and tactics accordingly.

Overall, the use of counter campaigns and measures against fake news and misinformation is a crucial aspect of effectively responding to the use of social media in riots. By implementing these strategies in conjunction with the OODA loop and other tactics outlined in our framework, stakeholders can more effectively navigate the complex and rapidly evolving landscape of online activity related to riots.

### 5. CONCLUSION

In conclusion, social media has become an increasingly important tool for organizing, mobilizing, and propagandizing riots around the world. The case study of the Sri Lankan riots has shown that social media played a significant role in organizing and mobilizing the riots. The use of dedicated Facebook groups and Telegram channels, as well as hashtags, provided a platform for activists to coordinate and disseminate information quickly and easily.

Open-source intelligence (OSINT) techniques have proven to be a valuable tool for understanding and responding to the use of social media in riots. This research demonstrates the effectiveness of using OSINT techniques to collect, process, analyze and disseminate information from publicly available sources to gain valuable insights into the patterns and trends related to the use of social

media in riots. These insights can inform more effective responses to emerging threats.

The proposed operational framework for responding to the use of social media in riots draws on the OODA loop framework. The framework emphasizes the importance of proactive observation and analysis of social media activity related to riots, as well as the need for rapid and effective responses to emerging threats. The use of counter-campaigns and measures against fake news and misinformation can also help to control social media activism on riots while safeguarding fundamental rights.

This research contributes to a growing body of literature on the use of social media in riots and the role of OSINT techniques in understanding and responding to emerging threats. The patterns and trends identified and the recommendations in this study provide valuable insights for researchers, practitioners, and policymakers working in this important area.

### REFERENCES

1. Datareportal. (2022). Digital 2023: Sri Lanka. Retrieved April 13, 2023, from <https://datareportal.com/reports/digital-2023-sri-lanka>
2. Zaman, A., Smith, A. C., & Wiggins, A. (2019). Intelligence analysis in the age of social media: Revisiting the OODA loop. *International Journal of Intelligence and Counterintelligence*, 32(4), 622-639.
3. Ratcliffe, J., & Shearer, A. (2014). Social media intelligence (SOCMINT): UK perspectives and capabilities. *Intelligence and National Security*, 29(6), 790-817.
4. Johnson, T. E., Rosenthal, S. L., & Caverly, J. F. (2019). Intelligence preparation of the information environment: The intelligence community's struggle to keep up with the information age. *Intelligence and National Security*, 34(6), 896-919.
5. Popp, R., Thompson, C., & Kramer, F. (2019). Rapid analytical wargaming: An operational framework for the information environment. *Journal of Strategic Studies*, 42(1), 1-25.
6. Castells, M. (2012). *Networks of outrage and hope: Social movements in the Internet age*. Polity.
7. Tufekci, Z. (2014). Big questions for social media big data: Representativeness, validity and other methodological pitfalls. In *Eighth International AAAI Conference on Weblogs and Social Media*.

8. Bimber, B., Flanagin, A. J., & Stohl, C. (2012). *Collective action in organizations: Interaction and engagement in an era of technological change*. Cambridge University Press.
9. Earl, J., & Kimport, K. (2011). *Digitally enabled social change: Activism in the internet age*. MIT Press.
10. Shirky, C. (2011). The political power of social media. *Foreign Affairs*, 28-41.
11. Lim, M. (2012). Clicks, cabs, and coffee houses: Social media and oppositional movements in Egypt, 2004-2011. *Journal of Communication*, 62(2), 231-248.
12. Tilly, C. (2015). *Contentious politics*. Oxford University Press.
13. McCurdy, P., & Della Porta, D. (2019). *Social movements and their technologies: Wiring social change*. Routledge..
14. Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230. Doi:10.1111/j.1083-6101.2007.00393.x
15. Abercrombie, N., Hill, S., & Turner, B. S. (Eds.). (1991). Riot. In *The Penguin Dictionary of Sociology* (4th ed., p. 332). Harvard University Press.

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#### AUTHOR BIOGRAPHY



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# Drone-Enable Security: Advancing an Operational Framework for Sri Lanka

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**Abstract**— *The Nagorno-Karabakh war in 2020 demonstrated the unprecedented paradigm shift in aerial warfare, with Azerbaijan successfully utilising attack drones to destroy enemy troops and defence systems. This study underscored the prominence of comprehending and keeping pace with the evolving trends of drone technology in the security realm. The study addressed the knowledge gap by providing valuable insights into defining an operational framework and integrated approach for drone operations in Sri Lanka. It emphasized the importance of aligning drone utilization with the operational framework to achieve favourable outcomes in military engagements. Besides, the study established a statistical correlation between the integrated approach and the employment of drones in the security realm, highlighting the significance of collaboration between different state agencies and the military. The research methodology employed a mixed-method approach, combining primary data collection through questionnaires and interviews with secondary data from literature and doctrines. The sample size was determined using the stratified sampling technique, ensuring representation from relevant stakeholders involved in drone operations. The conceptual framework is based on the review of theoretical studies. The study explored that the operational framework must be based on purpose, time, space, and resources in land and maritime domains. Further, centralised command and integrated operational environment must be established whilst enhancing the collaboration in research and development projects to advance the drone industry in the country.*

**Keywords**- *Drone, Operational Framework, Integrated Approach, Centralised Command*

## I. INTRODUCTION

**“If you ignore during the peace, consequences will be greater in war”**

**- Sir Winston Churchill**

In the new millennium, formidable militaries are vigorously developing drone technology and enhancing their drone arsenals. Simultaneously, multinational

corporations are also endeavouring to utilize drones for multi-purposes, aiming to lower human involvement (Priyamal, 2022). Therefore, Sri Lanka needs to gain insights and keep pace with these evolving trends to progress alongside the contemporary world.

It is noteworthy to write that in the post-conflict era, limited attention has been given to enhancing the military capabilities of the country. Drones have no exemption either. Therefore, it is imperative to comprehend and study the applicability and significance of drone operations in current and future warfare. This understanding will enable the necessary reforms in the country's force structures to align them with the evolving trends in drone technology. The Nagorno-Karabakh war in 2020 symbolised an unprecedented paradigm shift in aerial warfare. Azerbaijan successfully gained complete control of the skies against Armenia within the six-week war, utilizing attack drones at a relatively low cost. The ability to hunt and eliminate ground troops has become easier than ever before, and it is too at a significantly lower economy of effort (Detsch, 2021). Further, the widespread use of drones has facilitated targeting troops hiding inside trenches in mountainous areas (Dixon, 2020). This accessibility of drones has demonstrated their effectiveness in targeting enemy troops, tanks, and air defence systems compared to conventional manned fighters (Ahmad, 2022; Priyamal, 2022).

Figure 1. Azerbaijan drones attacking Armenian tanks



Source: Eurasianet (2020)

According to Wijetunge and Wanasinghe (2021), drones have emerged as a dominant force on the modern battlefield, presenting a glimpse into the future of warfare. Therefore, it becomes imperative to thoroughly examine and articulate the various pathways of drone operations within the context of the Sri Lankan security landscape.

### A. Significance of the Study

This study offers valuable insights into the strategic development of an operational framework for the military utilization of drones in Sri Lanka. It is indispensable to establish a well-planned, thoroughly forecasted, and efficiently organized mechanism in this regard. The findings of this study will guide the implementation of an effective operational mechanism for the development, deployment, and utilization of drones in the security operations of the country. Researchers learned that no literature has been found concerning the operational framework for drone operations. Therefore, this will certainly add new knowledge to the existing limited literature and will help to bridge the knowledge gap.

### B. Problem Statement

The use of drones has witnessed an unprecedented increase worldwide in the second decade of the new millennium. Wijetunge and Wanasinghe (2021) emphasized the widespread adoption of drones by both state and non-state actors due to their cost-effectiveness and relatively simple technology. The Sri Lankan Army (SLA) has also recognized the importance of employing unmanned aerial vehicles (UAVs) in security operations and enhancing its capabilities for future applications. However, researchers learned that currently no collaboration or unified mechanism in place to advance, drone operations in the country.

Following the Nagorno-Karabakh war in 2020, notable armies, including the US and Britain, have developed a school of thought regarding drone operations (Priyamal, 2022). Detsch (2021) and Dixon (2020) argued that off-the-shelf air power will undergo significant changes and dominate the battlefields of the future. Therefore, the researcher has concluded that it is crucial to keep pace with the evolving warfare dynamics to avoid the predicaments faced by small militaries in developing economies, which could have detrimental effects on national security. Thus, it is imperative to discover the roles that drones can be employed in the security realm of Sri Lanka.

Despite the increasing prominence of drones in the realm of security, there is a clear absence of empirical studies exploring the effective application of drone operations in this context. This knowledge gap hinders the development of informed strategies and guidelines for utilizing drones optimally in security operations. Therefore, this study aims

to address this gap by laying a foundational basis to explore the determinants of effective drone applications within the security landscape and their empirical associations. By doing so, it seeks to provide valuable insights and contribute to the advancement of practical and evidence-based approaches to implementing drones in security operations.

### C. Scope of the Study

The study mainly focuses on the application of drones in the security landscape of Sri Lanka. Besides, it involves exploring the roles and potential uses of drones for addressing security challenges in the country. Further, research has limited the scope to SLA and SLAF as the two principal drone operators in the country's military context.

### D. Aim of the Study

To explore effective drone applications in Sri Lanka's security landscape, contributing to informed strategies for optimal utilization and enhanced national security whilst identifying their air power roles.

### E. Research Objectives

1. To explore air power roles that drones can execute in security operations of the country.
2. To define an operational framework for drone operations in Sri Lanka.
3. To examine empirical associations between the employment of drones in the security realm and operational framework as well as an integrated approach.

## II. METHODOLOGY

This piece of the study has discussed the methodology which supported to derive the conceptual framework. Further, presented with population, sampling technique, sample size, tools of data analysis, etc. Besides, the researcher formulated hypotheses related to the study and subsequently discussed how these hypotheses are tested and data analyzed. The research design of the study is enumerated as follows.

**Research Approach-** The study conformed to a deductive approach to test hypotheses and correlations.

**Research Choice-** The exploratory study has resorted to mixed-method research.

**Research Philosophy-** This study principally developed from a positivist stance where researchers envisaged the existence of associations between variables.

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**Research Strategy-** The study resorted to a case study strategy whereas the discovered case was the drone employment in security operations of Sri Lanka.

**Technique and Procedure-** Data collection and analysis are the technique and procedures of the study. Primary data were collected through self-administered questionnaires, and expert interviews whilst secondary data were collected from previous research, journal articles, news and web articles as well as air power doctrines of regional/global Air Forces.

### A. Conceptualisation

The schematically derived conceptual framework has reflected the prospects of the researchers. This study is structured around three research objectives and is designed to align with a deductive approach. Through an extensive review of the literature, a conceptual framework has been developed to guide the identification and testing of research hypotheses as well.

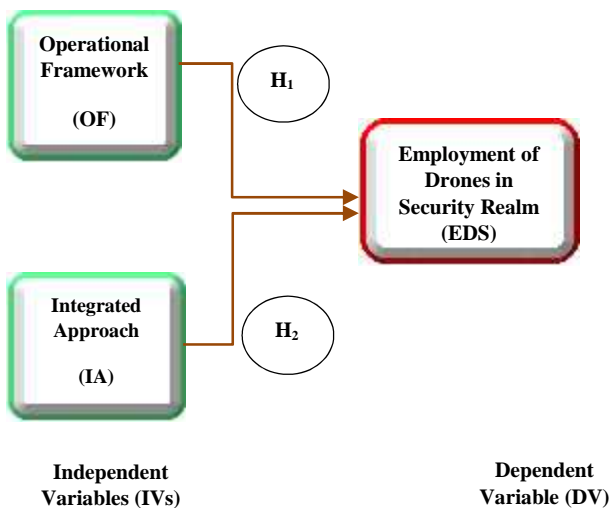


Figure 2. Conceptual framework  
Source: Authors (2023)

**Operational Framework:** The operational framework serves as a cognitive tool utilized by Commanders and staff to effectively visualize and articulate the application of combat power in terms of time, space, and purpose, with available resources during operations (US Army Doctrine, 2017; Priyamal, 2022). Successful employment of drones on par with the operational framework resulted in favourable outcomes for Azerbaijan's military in the Nagorno-Karabakh war (Destch, 2021). Thus, researchers explored that operational framework has a significant relationship with the employment of drones in the security realm.

**Integrated Approach:** Land forces rely on joint, inter-agency, and multinational relationships to effectively carry out military activities. The SLAF and Army have acquired small-scale drones to support civil and law enforcement

agencies (Joseph, 2021). Priyamal (2022) has concluded that a joint approach to the application of drones in security operations exhibits a positive correlation. Therefore, researchers discovered that a significant relationship prevails between the integrated approach and the employment of drones in the security realm.

**Employment of Drones in the Security Realm:** The application of air power in three distinct situations categorised as peace, crisis, and war ( SLAF Doctrine, 2022; BAF Doctrine, 2014). Land operations in peacetime involve two types of operations such as combat stability and Military Aid to Civil Authority (MACA) (British Army Land Operations, 2010). Consequently, the researchers have identified that the employment of drones should be done following the aforementioned operations.

### B. Hypotheses

Researchers have devised three hypotheses based on the conceptual framework and identified variables.

$H_1$  : A significant relationship exists between the operational framework and the employment of drones in the security realm.

$H_{1,0}$  : No significant relationship exists between the operational framework and the employment of drones in the security realm.

$H_2$  : A significant relationship exists between the integrated approach and the employment of drones in the security realm.

$H_{2,0}$  : No significant relationship exists between the integrated approach and the employment of drones in the security realm.

### C. Operationalisation

Table 1: Operationalisation

Variable	Indicator	Measurement
Demographic	Gender	Nominal scale
	Age	Ordinal scale
	Service	Nominal
	Experience in the Drone field	Ordinal scale
Operational framework	Time	Nominal scale
	Space	Ordinal scale
	Purpose	Ordinal scale
	Resources	Ordinal scale



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Integrated approach	SLA operators	Ordinal scale
	SLAF operators	Ordinal scale
	Police	Ordinal scale
	State agencies	Ordinal scale
Employment of drones in the security realm	Combat stability	Ordinal scale
	Peace support	Ordinal scale
	Humanitarian Assistance and Disaster Relief (HADR)	Ordinal scale
	MACA	Ordinal scale

Source: Authors (2023)

### D. Population

Population of research refers to any group of people or objects that are the subject of study in a particular survey (Sekaran and Bougie, 2016). Researchers identified drone operators of the SLA/SLAF, decision-makers in drone operations, and entities that utilize drone information as the most appropriate individuals to obtain first-hand information about operational engagements. Thus, the population consisted of individuals at the operational and tactical levels concerning drone operations within SLA and SLAF.

Therefore, researchers considered the study population as the sum of five strata: Officers/Soldiers from the 15th Drone Regiment (100), Directorate of Operations (05), Directorate of Military Intelligence (05), Commando Officers from the anti-hijack unit (25), and drone pilots of the SLAF (35) (SLA, 2022; SLAF, 2022). Hence, the total study population (N) is considered to be 170 individuals (100 + 05 + 05 + 25 + 35).

### E. Sampling Technique

A sample is a subset of the population and comprises only a few elements from the entire population. Besides, identifiable subgroups within the population may be expected to have different parameters for a variable of interest (Sekaran & Bougie, 2016). Therefore, the researchers have chosen simple random sampling and stratified sampling techniques.

This involved the process of determining the sample size, stratification, and subsequently selecting subjects randomly from each stratum. The stratum was identified as described in the preceding paragraph, namely Drone Regiment Officers/Operators ( $n_1$ ), Officers from Directorate of Operations ( $n_2$ ), Officers from Directorate of Military Intelligence ( $n_3$ ), Commando Officers from the anti-hijack unit ( $n_4$ ), and drone pilots of the SLAF ( $n_5$ ).

### F. Sample Size

Researchers have used the Morgan table to define the sample size from the population (Krejcie & Morgan, 1970). Since the study population size is 170 (N), the sample size (n) is derived as 118 following the Morgan table. Thereby, researchers used the following equation to derive the sizes of strata respectively  $n_1$ ,  $n_2$ ,  $n_3$ ,  $n_4$ , and  $n_5$  (Doane and Seward, 2008).

$$n_i = (n/N)N_i$$

$$\therefore n_1 = (118/170)100 \approx 70$$

$$\therefore n_2 = (118/170)05 \approx 3$$

$$\therefore n_3 = (118/170)05 \approx 3$$

$$\therefore n_4 = (118/170)25 \approx 18$$

$$\therefore n_5 = (118/170)35 \approx 24$$

**Data Collection and Analysis-** Primary data were collected using a self-administered questionnaire and semi-structured interviews. Researchers extracted expert views from top brasses in regional AFs such as India, Bangladesh, and Pakistan. Doctrines, journal articles, conference proceedings and books were contributed in secondary data. Quantitative data were analysed using SPSS 27 whilst thematic analysis was employed as the data analysis tool for qualitative data analysis. Interview data were coded using the open coding technique where the redundant codes were omitted whilst five themes were derived and presented hereto. Furthermore, the researchers have conducted reliability tests, validity tests, descriptive statistics, bivariate analysis, correlation analysis, and regression analysis concerning the study. The confidence level used for the analyses was set at 95%, and the precision value was determined as 5%.

## IV. FINDINGS AND DISCUSSION

This section elucidated the findings of the analysis and the results derived from the questionnaires and interviews. Subsequently, the testing of hypotheses is presented and discussed, along with the impact of independent variables (IVs) on the dependent variable (DV).

### A. Findings

The researchers collected data from 110 respondents, resulting in a response rate of 93%. The reliability test results indicated a Cronbach's Alpha value of 0.89, suggesting that the results could be generalized up to 89%. Additionally, the KMO value of 0.657 indicated that the sample size was adequate for conducting a factor analysis and generalizing the results. Furthermore, the skewness values of all variables were within the accepted range of

-0.5 to +0.5. Moreover, the normality test results indicated a normal distribution.

Table 2: Reliability statistics

Cronbach's Alpha	N of Items
.780	23

Source: Authors (2022)

Demographic data revealed that the majority (58%) of respondents are within the age limit of 30-35 years. Further, more than 64% have engaged in drone operations between 0-5 years. Thus, it was explored that the majority of the sample have considerable experience in drone operations.



Figure 3. Experience in drone operations

		EDS	OF	IA
EDS	Spearman Correlation	1	.588**	.525**
	Sig. (2-tailed)		.000	.000
	N	110	110	110
OF	Spearman Correlation	.588**	1	.317**
	Sig. (2-tailed)	.000		.001
	N	110	110	110
IA	Pearson Correlation	.525**	.317**	1
	Sig. (2-tailed)	.000	.001	
	N	110	110	110

Table 3: Correlation analysis

Source: Authors (2023)

All the IVs exhibited a positive correlation with the DV, with p-values below the significance level of 0.05. It is important to note that in all cases, the Spearman correlation coefficient ( $r'$ ) values ranged from 0.5 to 1, indicating a strong relationship (Richard 1990; Sekaran and Bougie, 2016). Spearman correlation was considered since the study examined associations between ordinal variables (Saunders et al., 2018). Therefore, it is statistically evident that strong relationships exist between the IVs of OF and IA with the DV of EDS.

Table 3: Correlation analysis

Source: Authors (2023)

The tolerance and Variation Inflation Factor (VIF) values obtained from the multicollinearity test confirmed that there was no risk of multicollinearity, indicating that the data was suitable for conducting multiple regression analysis. The tolerance values were above 0.2, and the VIF values were below 5. Besides, the minimum and maximum values of the standard residual statistic suggested that no outliers were present in the collected data. Furthermore, the ANOVA table indicated that the regression model provided a moderately good fit for the collected data.

Table 4- Collinearity statistics

Model	Collinearity Statistics	
	Tolerance	VIF
1 OF	.892	1.121
IA	.779	1.283

a. Dependent Variable: EDS

**Hypotheses Testing**

In accordance with the forementioned correlation analysis hypotheses testing was done to test the relationships between IVs and DV.

Table 5: Association between IVs and DV

	EDS	OF	IA
Spearman Correlation	1	.588**	.525**
Sig. (2-tailed)		.000	.000
N	110	110	110

Source: Author (2023)

**H<sub>1</sub>** : A significant relationship exists between the operational framework and the employment of drones in the security realm.

According to the respondents, it was found that a strong positive relationship prevails between OF and EDS. Further, the correlation coefficient of 0.588 with a p-value of 0.000 ( $P < 0.05$ ) signified that statistical evidence proved that **H<sub>0</sub> is rejected and H<sub>1</sub> is accepted**. Hence, it is implied that there is a positive relationship between the OF and EDS.

**H<sub>2</sub>** : A significant relationship exists between the integrated approach and the employment of drones in the security realm.

It was found that a strong positive relationship prevails between IA and EDS. Further, the correlation coefficient of 0.525 with a p-value of 0.000 ( $P < 0.05$ ) signified a strong relationship between the two variables. Thus, **H<sub>2</sub> is accepted and H<sub>0</sub> is rejected**. Hence, it is implied that a positive relationship exists between JAI and EAD.

**Interview Results**

**Operational Framework.** SLA is currently operating small-scale drones with limited operational capabilities since 2016 (Priyamal, 2022). However, there is a lack of a specific operational framework for drone operations in the country. Thus, it is necessary to define an operational framework that takes into account aspects such as time, space, purpose, and resources, while providing insights on operational themes including warfighting, security, peace support, and defence engagements. The future expansions of SLA drone engagements should be tailored to operate across all operational themes.

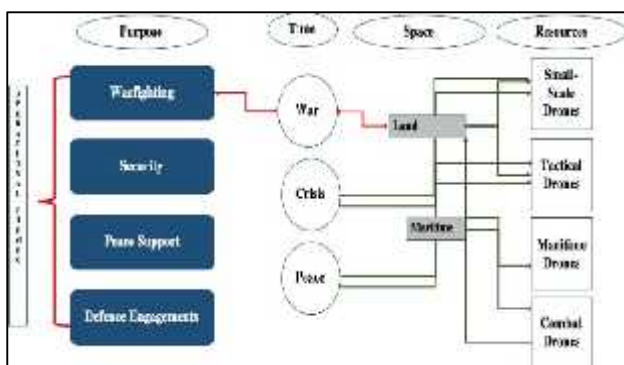


Figure 4. Operational framework for drone operations in Sri Lanka Source: Authors (2023)

**Integrated Approach.** Interview results suggested that an integrated approach would be beneficial to boost the research and development of drone programmes according to the national requirement. In this regard, SLA, SLN and SLAF as well as other agencies such as Police, Customs, Wildlife, Forest department etc. and universities must be worked collectively. Further, establishing an integrated drone research and development centre for that purpose would be a better option.

**Types of Drone Operations.** Drone operations in support of land operations can be done with the upgradation of existing assets though necessary to acquire new platforms equipped with optimum IR and camera sensors to operate in the maritime domain. Drone operations in Sri Lanka mainly can be split into two tiers such as land and maritime operations. Although, current capacities and capabilities are not sufficient to cater for these demands owing to the non-availability of assets (Wijetunge and Wanasinghe, 2022; Priyamal, 2022).

**Centralised Command.** SLA operators are still novel to the operational context and necessary to be aware of other considerations that are compulsory for a flight of an aircraft within Sri Lankan airspace. A centralised command post is necessary to log down the all drone requirements of SLA and SLAF as well as other agencies such as the Police,

Customs, Wildlife, Forest department etc. This operations centre must be under the operational command of SLAF since airspace management directly comes under the purview of SLAF. Hence, establishing integrated drone operations monitoring cell that is equipped with an essential communication network is pivotal.

**Research and Development.** Research work must be aimed to develop ISR, capabilities and attack drones. Hence, SLAF and SLA collectively need to continue R & D work in respect of developing drones compatible to conduct ISR and attack operations. The main challenges in this regard are developing drone engines, data links, IR optical and highly sensitive cameras and other sensors. Foreign assistance may be necessary to avail given acquiring technical know-how. Wijetunge and Wanasinghe (2022), underscored that air diplomacy can be leveraged to acquire technical know-how from foreign-friendly Air Forces. Therefore, SLAF can employ air diplomacy to advance its R&D capacities through air diplomacy.

### Attaining Research Objectives

**To explore air power roles that drones can execute in security operations of the country.** The study found that principal air power roles, such as ISR (Intelligence, Surveillance, and Reconnaissance) and attack, can be employed. However, neither SLA nor SLAF has this capability and is unlikely to develop in coming years owing to the absence of external threats. Currently, ISR operations can be employed in the land and maritime domains, though there is a need to enhance capabilities and capacities specifically for maritime operations. These roles will be greatly benefitted to state authorities such as the police, wildlife, forest, and customs departments. It is also important to adhere to air traffic control (ATC) and air defence (AD) instructions to operate within Sri Lankan airspace. Therefore, establishing an integrated operational environment would address issues related to flight safety and air defence

**To define an operational framework for drone operations in Sri Lanka.** The findings indicate that currently, the SLAF and SLA are operating in isolation when it comes to drone operations. Therefore, it is necessary to establish a joint drone operations monitoring cell equipped with a robust communication network to ensure effective and timely communication, as well as to prevent unauthorized drone operations. The authors suggested that the SLA, SLN, SLAF, Police, Wildlife, Forest Department, and Customs must work collectively, taking into consideration factors such as time, space, purpose, and available resources. Besides, the SLAF and SLA should collaborate on research and development efforts to develop drones that are capable of conducting ISR and attack operations, subject to the necessity. Based

on these findings researchers have designed an operational framework that is illustrated in figure 4.

**To examine empirical associations between the employment of drones in the security realm and operational framework as well as an integrated approach.** Quantitative data analysis illustrated that operational framework and integrated approach have strong correlations with the employment of drones in the security realm. Spearman's coefficient of correlation ( $r^s$ ) values respectively 0.588 and 0.525 at a significance level of 0.000 delineated that strong positive association between IVs and DV. Further, hypotheses testing also proved that  $H_1$  and  $H_2$  are accepted whilst  $H_{1_0}$  and  $H_{2_0}$  were rejected.

### V. RECOMMENDATIONS AND CONCLUSION

Researchers, consequent to the extensive study, findings and discussion, recommendations have been made on par with the set objectives.

A. *To establish an integrated operational environment by integrating SLA, SLN, SLAF, Wildlife, Forest department and Customs to cater to requirements being projected concerning all operational themes.*

B. *To establish a centralized command that is led by the SLAF on drone operations.*

C. *To adapt the operational framework for drone operations of SLA and SLAF based on operational themes of warfighting, peace support, defence engagement and security in par with time, space, purpose and resources.*

D. *To provide real-time drone picture-driven data to respective decision-makers to take prompt decisions that are driven by accurate data.*

E. *To conduct educational/awareness sessions for middle-grade Officers in SLA/SLAF about drone operations/technology in aerial warfare by expertise in the field.*

F. *To incorporate drone operations and technology into the training and education syllabuses of SLA/SLAF Officer Cadets and Officers' training/education programmes.*

G. *To conduct tactical air power missions in respect of ISR in support of SLA land operations.*

H. *To establish a joint drone research and development (R&D) centre with the collaboration of SLAF and SLA to develop an indigenous drone for SLA for operational and tactical purposes.*

J. *To study the development of an indigenous combat drone for Sri Lanka.*

### CONCLUSION

A new paradigm has emerged in respect of military drone operations, driven by the changing dynamics of warfare. The Nagorno-Karabakh war has provided esteemed insights into the effective employment of drones on the battlefield. Consequently, it is decisive to clearly define the types of operations, determine the extent of engagement, and identify the necessary apparatus required for security engagements. This strategic planning will ensure effective and informed decision-making regarding the acquisition and deployment of drones in the security realm.

The study explored that employment of drones in security operations (EDS) has been determined by operational framework (OF), and integrated approach (IA). Therefore, researchers have conceptualised preceding determinants and operationalised the same to the collection of data through questionnaires and semi-structured interviews.

In conclusion, this research has shed light on the significance of developing a comprehensive operational framework for drone operations in Sri Lanka. The study underscored the global rise in drone usage and its impact on modern warfare, drawing insights from the Nagorno-Karabakh conflict. It elucidated the need for SLA and SLAF to collaborate and establish a joint drone operations monitoring cell to facilitate effective communication and prevent unauthorized drone activities. Furthermore, the research emphasized the significance of joint efforts among various stakeholders, including SLA, SLN, SLAF, and other state authorities, in adhering to operational principles and optimizing the use of drones in different security domains. By tackling these key aspects, Sri Lanka can establish a robust and effective drone programme for bolstering its security operations.

### REFERENCES

- Army Doctrine Publications, 2010. Land Operations. 3rd ed. Warminster: Land Warfare Development Centre, pp.3-1, 3-2.
- British Joint Doctrine, 2017. Joint Doctrine Publication 0-30 UK Air and Space Power. 2nd ed. Swindon, Wiltshire: DCDC, Ministry of Defence, pp.43-45.
- Bryman, A., 2012. *Social Research Methods*. 4th ed. New York: Oxford Press, p.809.

## Drone-Enable Security: Advancing an Operational Framework for Sri Lanka

- Detsch, J., 2022. *The U.S. Army Goes to School on Nagorno-Karabakh Conflict*. [online] Foreign Policy. Available at: <<https://foreignpolicy.com/2021/03/30/army-pentagon-nagorno-karabakh-drones/>> [Accessed 1 April 2023].
- Dixon, R., 2020. Azerbaijan's drones owned the battlefield in Nagorno-Karabakh - and showed future of warfare. [online] Gulf News. Available at: <<https://gulfnews.com/amp/world/europe/azerbaijans-drones-owned-the-battlefield-in-nagorno-karabakh---and-showed-future-of-warfare-1.75294614>> [Accessed 3 April 2023].
- Doane, D. and Seward, 2008, L., n.d. *Applied statistics in business and economics*. 1st ed. New Delhi: Tata McGraw-Hill Publishing Hill Company Limited, pp.38-39.
- IAF, 2012. *Basic Air Power Doctrine*. 12th ed. New Delhi: IAF, pp.94-95.
- Joseph, 2021. *The other dimension of SLAF aerial observation*. [online] Daily News. Available at: <<https://www.dailynews.lk/2021/06/02/features/250627/other-dimension-slaf-aerial-observation>> [Accessed 1 May 2023].
- Krejcie, R. and Morgan, D., 1970. Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30(3), pp.607-610.
- Mcneal, G., 2016. Drones and the Future of Aerial Surveillance. *THE GEORGE WASHINGTON LAW REVIEW*, 84, pp.356-361.
- Pallant, J., 2013. *SPSS survival manual*. 5th ed. Maidenhead: Open University Press, McGraw-Hill.
- RAF, AP-3000., 2009. *British Air and Space Doctrine*. 4th ed. Swindon: RAF, pp.30-31.
- Richard, T., 1990. *Interpretation of the Correlation Coefficient: A Basic Review - Richard Taylor, 1990*. [online] SAGE Journals. Available at: <<https://journals.sagepub.com/doi/10.1177/875647939000600106>> [Accessed 28 May 2021].
- Saunders, M. and Lewis, P., 2018. (PDF) "Research Methods for Business Students" Chapter 4: Understanding research philosophy and approaches to theory development. [online] ResearchGate. Available at: <[https://www.researchgate.net/publication/330760964\\_Research\\_Methods\\_for\\_Business\\_Students\\_Chapter\\_4\\_Understanding\\_research\\_philosophy\\_and\\_approaches\\_to\\_theory\\_development](https://www.researchgate.net/publication/330760964_Research_Methods_for_Business_Students_Chapter_4_Understanding_research_philosophy_and_approaches_to_theory_development)> [Accessed 25 March 2021].
- Sekaran, U. and Bougie, R., 2016. *Research Methods For Business: A Skill Building Approach Seventh Edition*. 6th ed. New Delhi: John Wiley & Sons, pp.94-98,146-149, 229-230,239-242,248-251,315-319.
- SLAF, 2022. *SLAF's Basic Doctrine*. 2nd ed. Colombo: AFHQ, pp.175-181.
- Sri Lanka Army, 2020. New 15th Drone Regiment of the Sri Lanka Artillery Inaugurated to Meet with Future Challenges | Sri Lanka Army. [online] Army.lk. Available at: <<https://www.army.lk/news/new-15th-drone-regiment-sri-lanka-artillery-inaugurated-meet-future-challenges>> [Accessed 1 May 2022].
- US Army, 2017. *Operations*. 3rd ed. Washington DC: US Army Headquarters, pp.4-8, 20-24.
- Wijetunge, K. and Wanasinghe, N., 2021. Reforming Of Air Defence Systems Of Small Air Forces Through An Air Diplomacy Framework To Counter Contemporary Aerial Threats : Sri Lankan Perspective And Way Forward. In: BCIS ESS. [online] Colombo: BCIS, pp.61-62.
- Wijetunge, K. and Wanasinghe, N. (2021) *Reforming the air defence systems of small air forces through an air ...*, ResearchGate. Available at: [https://www.researchgate.net/publication/356726698\\_Reforming\\_the\\_Air\\_Defence\\_Systems\\_of\\_Small\\_Air\\_Forces\\_through\\_an\\_Air\\_Diplomacy\\_Framework\\_to\\_Counter\\_Contemporary\\_Aerial\\_Threats\\_Sri\\_Lankan\\_Perspective\\_and\\_Way\\_Forward](https://www.researchgate.net/publication/356726698_Reforming_the_Air_Defence_Systems_of_Small_Air_Forces_through_an_Air_Diplomacy_Framework_to_Counter_Contemporary_Aerial_Threats_Sri_Lankan_Perspective_and_Way_Forward) (Accessed: 03 June 2023).
- Wijetunge, K. and Wanasinghe, N. (2022) ResearchGate. Available at: [https://www.researchgate.net/profile/Kasun-Wijetunge/publication/364057882\\_Prevalence\\_of\\_Niche\\_Air\\_Forces\\_Amidst\\_Economic\\_Turmoil\\_Opportunities\\_and\\_Way\\_Forward/links/6337a3abff870c55ceec59ae/Prevalence-of-Niche-Air-Forces-Amidst-Economic-Turmoil-Opportunities-and-Way-Forward](https://www.researchgate.net/profile/Kasun-Wijetunge/publication/364057882_Prevalence_of_Niche_Air_Forces_Amidst_Economic_Turmoil_Opportunities_and_Way_Forward/links/6337a3abff870c55ceec59ae/Prevalence-of-Niche-Air-Forces-Amidst-Economic-Turmoil-Opportunities-and-Way-Forward) (Accessed: 03 June 2023).
- IAF *Basic Air Power Doctrine*. 2012. 12th ed. New Delhi: IAF HQ, pp.117-124.

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---

- Joint Doctrine Publication. (2017). UK Air and Space Power (2nd ed.). Ministry of Defence.
- Priyamal, W. (2022) *Conceptualising an operational framework for drone operations*. dissertation.
- RAF, AP-3000., 2009. *British Air and Space Doctrine*. 4th ed. Swindon: RAF, pp.30-31.
- Saunders, M., Lewis, P. and Thornhill, A., 2018. *Research Methods for Business Students eBook*. 8th ed. Harlow: Pearson Australia Pty Ltd.
- SLAF, 2018. *Vision-2025*. 1st ed. Colombo: AFHQ, pp.18-23.
- SLAF, 2022. *SLAF's Basic Doctrine*. 2nd ed. Colombo: AFHQ, pp.175-181.
- Wanasinghe, N. and Wijetunge, K., 2021. Pragmatic response for maritime-air security a way forward: Conceptual framework from a strategic aerial perspective. In: KDU IRC. Colombo: KDU, p.38. <https://library.kdu.ac.lk/irc2021/Defence-and-Strategic-Studies-E.pdf>
- Wijetunge, K., & Wanasinghe, N. (2021). Conceptualising an Air Diplomacy framework for Air Strategy of small Air Forces to strengthen foreign policy aspirations : Sri Lankan perspective and way forward. In International Research Conference. Ratmalana; KDU. Retrieved 10 September 2021, from <http://library.kdu.ac.lk/irc2021/index.php>.
- Wijetunge, K. and Wanasinghe, N., 2021. Reforming Of Air Defence Systems Of Small Air Forces Through An Air Diplomacy Framework To Counter Contemporary Aerial Threats : Sri Lankan Perspective And Way Forward. In: BCIS ESS. [online] Colombo: BCIS, pp.61-62. Available at: <<https://bcis.edu.lk/index.php/portfolio/bcis-symposium-2021-abstract-book/>> [Accessed 20 June 2022].
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# Regional security implications of the hybrid war in Afghanistan

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**Abstract** – In the aftermath of the U.S. and NATO withdrawal from Afghanistan in 2021, the war-torn nation has experienced a significant shift in the nature of its endless conflict. Following the Taliban regaining power by ousting the Kabul regime, Afghanistan has once again transcended as the latest geopolitical battleground for superpowers and regional state actors. The perpetual state of war in Afghanistan has converged local and transnational militant aspirations with geopolitical interests – leading to a nexus between state and non-state actors that are engaging in a hybrid war. The utilization of hybrid warfare strategies in Afghanistan by state and non-state actors has added a new dimension to the conflict, which has developed into the latest major threat to peace and security in the South and Central Asian region. As the Taliban grapples to maintain its hold on governance, their authority and legitimacy faces persistent challenges from local militants and transnational terrorist groups. This complex milieu provides a space for state actors and militant groups to operate below the threshold of a conventional war, by employing synchronized multidimensional methods of warfare. The objective of this paper is to help guide strategic thinking by understanding the applications of the concept of hybrid warfare in the context of the conflict in Afghanistan. This analysis examines the implications to regional security in South and Central Asia, by exploring the current trajectory of Afghanistan's perpetual war, which has evolved into a state of "perpetual hybridity" resulting from hybrid strategies that are directed by state and non-state actors.

**Keywords:** Hybrid warfare, Perpetual War, Perpetual Hybridity, Afghanistan, Taliban, Islamic State Khorasan Province (ISKP), Regional Security, Battlespace

## I. INTRODUCTION

The changing nature of armed conflicts in the 21st Century is manifested by the advent of Hybrid warfare, which includes the synchronized use of conventional and asymmetric strategies, combined with non-military (non-kinetic) instruments of warfare that comprises – political, psychological, diplomatic, informational, cyber and economic tools, which is reinforcing the strategic

capabilities of both state and non-state actors. The dawn of hybrid warfare has empowered a state or an insurgent group to limit battlefield losses and achieve its overall strategic objectives by concentrating a minimum force within multiple operational domains (battlespaces).

The constantly evolving 'perpetual war' in Afghanistan has led to state and non-state actors contributing towards the hybridization of the conflict, which poses significant implications to the regional security in South and Central Asia. The application of hybrid warfare strategies in the Afghan theater by militant groups such as the Taliban, Al Qaeda and Islamic State of Khorasan Province (ISKP), has enabled them to influence instruments of national power, by simultaneously engaging in conventional, asymmetric and non-kinetic means of warfare. While terrorist organizations in Afghanistan contribute towards the worsening security environment, Geopolitical factors and regional rivalries are correspondingly further exacerbating the hybrid threat, which is driving foreign state actors to use non-military tools to instill their influence in the country.

Afghanistan has once again emerged as a hub for transnational terrorism following the U.S. and NATO forces ending their nearly two-decade long occupation in 2021 (Institute for Economics and Peace, 2023; 2022; 2021). According to the International Rescue Committee, Afghanistan topped the list of countries that has the highest risk of a deteriorating humanitarian crisis in 2022 (IRC,2022). The Global Terrorism Index of 2023 has also ranked Afghanistan at the top of its list for the fourth consecutive year, noting that transnational and regional terrorism has been thriving amidst a volatile security environment (Institute for Economics and Peace, 2023). The current dynamics of the perpetual war in Afghanistan is precipitated by political instability, infighting within the Taliban regime, multiple internal conflicts, the humanitarian crisis, the growing threat of transnational terrorism originating from ISKP, geopolitical competitions and regional conflicts. Many of these factors that are driving Afghanistan's perpetual war have all converged within a single theater of conflict, creating the ideal conditions for hybrid threats that pose significant implications to regional security.

## II. METHODOLOGY

This paper will delve deep into the changing nature of Afghanistan's perpetual state of war which has evolved into a hybrid war that has the potential to last for generations. Recognizing and examining these dynamics is crucial when formulating effective regional policies aimed at fostering stability, peace, and development in Afghanistan and the wider region. This study is a qualitative research that will utilize secondary data sources to shed light on the concept of 'Perpetual Hybridity'. This study will analyze the fast evolving conflict trajectory of Afghanistan, which has transitioned to a state of perpetual hybridity, thereby posing grave regional security implications to the South and Central Asian region.

### III. ANALYSIS

#### A. Within a state of perpetual conflict

The concept of a perpetual war is characterized by an ongoing conflict without a clear endpoint, with shifting objectives and elusive enemies, while the classical concept of war is based on the notion of having a victor, a vanquished, a truce, a surrender or an end result that leads to the termination of a conflict (Hoffman, 2015). Traditionally, wars were considered to consist of an identifiable center of gravity, identifiable objectives, specific battlespaces, specific opponents and clear outcomes.

Many scholars have often cited the post-9/11 "War on Terror" as an example of a perpetual war due to its ambiguous nature, lack of a defined battlefield, and the absence of a clear point of conclusion (Keen, 2006; Danner, 2005). However, the concept of a perpetual war has become ever more relevant in the context of Afghanistan. The theoretical aspects of a perpetual war in relation to Afghanistan is characterized by geopolitical interests, proxy wars, insurgency dynamics, regional conflicts, and resource competition (Gharji, 2012).

The nature of Afghanistan's conflict has transformed in many stages since the early part of the 20th Century, which is marked by numerous internal conflicts that led to the deposition and assassination of several monarchs. (Sarkees and Wyman, 2010; Hazrah and McChesney, 1999). The involvement of foreign state actors played a key role in ending the 40-year reign of the final monarch of Afghanistan, Mohammad Zahir Shah who was deposed following a coup d'état in 1973, which eventually led to a period of political turmoil that resulted in constant regime changers and political assassinations (Arnold, 1985). These events led to the Soviet invasion of Afghanistan which evolved into an extension of the Cold War. Afghanistan eventually emerged as a decisive theater for a proxy war waged by the US Central Intelligence Agency (CIA) that was arming, training and funding the Afghan

Mujahideen in their offensive against the occupying Soviet Union forces.

Against the backdrop of the defeat and withdrawal of the Soviet Union in 1989, the conflict in Afghanistan took a new turn as competing Afghan militant groups were engaged in an internal conflict to gain power. The aftermath of the internal power struggle resulted in the Taliban ousting the Afghan government and capturing state power for the first time in September 1996. These events ultimately led to Afghanistan emerging as a hub for Jihadist militancy and a safe haven for Al Qaeda, which was the only major transnational Salafi Jihadist terror group at the time. The 9/11 terror attacks perpetrated by Al-Qaeda, eventually led to the Taliban regime being toppled in 2001 by the U.S. intervention in Afghanistan. The withdrawal of U.S. forces from Afghanistan after a nearly 20-year intervention led to the Taliban overthrowing the Ashraf Ghani regime and annexing state power. The perpetual war in Afghanistan continues unabated as it keeps taking a new shape through the hybridization of the conflict that is fueled by both internal and external factors that has threatened the balance of power in the region.

The absence of a clear endpoint and the multiple conflicts that are occurring concurrently has contributed to the perpetuation of the conflict in Afghanistan, which has enabled state and non-state actors to engage belligerent forces by going beyond a single battlespace, while focusing more attention towards the non-kinetic realm of warfare (Ferguson, 2022). Unlike the conflicts in Syria and Crimea, the current events have led to Afghanistan's perpetual war evolving into a perpetual hybrid conflict, which has converged geopolitical interests, internal conflicts, regional conflicts and transnational terrorism, posing a major regional security threat (Konyshev and Parfenov, 2019). This threat will continue to keep evolving by taking new forms, despite successive military interventions and counter insurgency campaigns. The hybrid threat stemming from Afghanistan can be used as a launchpad for a belligerent state and non-state actors that will seek to exploit multiple battlespaces by remaining below the threshold of a conventional conflict (Maizland, 2023).

#### B. The definitional ambiguity of hybrid warfare

Comprehending the concept of a hybrid war in the context of Afghanistan's perpetual state of conflict is essential in order to identify its implications to regional security. Over the years, the concept of Hybrid Warfare has been subject to several definitional debates due to its theoretical ambiguity and due to it containing elements of other forms of irregular or asymmetric tactics and unconventional or non-military strategies.

The term hybrid warfare initially gained attention in the paper titled 'Conflict in the 21st Century: The Rise of Hybrid Wars' authored by Frank G. Hoffman, who provided



a broad conceptualization of a new form of warfare which has evolved from regular and irregular warfare (2007). According to Hoffman (2009) hybrid warfare consists of the synchronization of strategies and tactics within multiple domains of operations. Hoffman (2009) has asserted that: "Hybrid threats incorporate a range of different modes of warfare including conventional capabilities, irregular tactics and formations, terrorist acts (including indiscriminate violence and coercion), and criminal disorder. Hybrid wars can also be multinodal—conducted by both states and a variety of nonstate actors." Another significant characterization of the phenomena of a hybrid threat was highlighted by Russell W. Glenn (2009) who asserts that it is, "an adversary that simultaneously and adaptively employs some combination of (1) political, military, economic, social, and information means, and (2) conventional, irregular, catastrophic, terrorism, and disruptive/criminal warfare methods".

Despite hybrid warfare containing elements of asymmetric warfare, the two terms have different connotations and applications. Hybrid warfare specifically refers to the simultaneous use of a combination of conventional and unconventional warfare and/ or irregular tactics, along with the use of non-kinetic forms of warfare to achieve a specific strategic objective. On the contrary, asymmetric warfare can be distinguished from hybrid warfare, as it refers to a broader concept that encompasses various strategies and tactics used by weaker actors to overcome the military advantages of stronger adversaries (Russel, 2004).

Accordingly, hybrid warfare will entail the use of proxy forces, terrorism, covert operations, information warfare, psychological warfare, cyber warfare, lawfare, espionage, diplomacy, organized criminal activities, political subversions and economic incentives or coercion, which is blended with conventional, unconventional, regular, irregular, and asymmetric tactics. The emergence of hybrid warfare has blurred the line between war and peace as battlespaces can be extended to include non-kinetic realms of operation and it also includes the weaponizing of non-military tools such as propaganda, economic fault lines, political systems, humanitarian issues, natural resources, diplomatic channels and ethnic divisions (Stoker and Whiteside, 2020). The ability to extend the battlespace to multiple operational domains and by operating below the threshold of a conventional war, which is known as a grey zone – has empowered state and non-state actors to employ hybrid strategies as a force multiplier.

The significance of directing non-military strategies as part of hybrid warfare has been incorporated in the most recent Russian military doctrine that has been dubbed as the Gerasimov Doctrine, named after its architect, General Valery Gerasimov. This doctrine introduces the concept of New Generation Warfare, which focuses on the

psychological, political, economic, and informational aspects that are part of a hybrid warfare strategy (B rzi š, 2020).

Russia's annexation of Crimea which developed into the conflict in Ukraine and Hezbollah's engagement of Israeli forces during the 2006 Lebanon conflict, can be taken as case studies of hybrid warfare. Russia's hybrid war in Ukraine included synchronized offensives that were conducted across multiple battlespaces, which entailed cyber warfare; information operations which included psychological operations, disinformation campaigns and fake news to fuel internal social upheavals in the country; political warfare strategies to create a favourable political condition for Russia; covert special operations, espionage activities, the employment of private military contractors such as the Wagner Group; and use of insurgent groups in Ukraine as a proxy force (Wither, 2016). Similarly, Hezbollah's operational art during the 2006 Lebanon conflict against a far superior Israeli Defence Force, is a classic example of the applications of hybrid warfare by a transnational terror group that simultaneously engages in multiple battlespaces (Piotrowski, 2015; Eilam, 2016).

### C. The state of perpetual hybridity

The current trajectory of Afghanistan's conflict has simultaneously unveiled all forms of warfare including conventional to unconventional warfare, low intensity confrontations, irregular tactics, proxy wars, asymmetric warfare, political warfare, urban warfare, siege warfare, terrorism, insurgency, transnational crime, psychological warfare, cyber warfare and information warfare. The security environment in Afghanistan is continuously redefined by these simultaneous conflicts that are fought in multiple battlespaces. The evolutionary nature of Afghanistan's perpetual war has created the conditions for hybrid militant groups and ambitious state actors that are employing hybrid warfare strategies to fill the security vacuum that was followed by the U.S. and NATO withdrawal in 2021.

In order to comprehend the regional security implications to South and Central Asia, it is important to delve deeper into the factors that are driving Afghanistan towards a hybrid war. The hybrid war in Afghanistan which poses grave regional security implications is fueled by five fundamental factors:

- 1). Taliban's transition from insurgency to governance.
- 2). The nexus between state and non-state actors.
- 3). Vibrant transnational hybrid militant landscape.
- 4). Information and Ideological warfare.
- 5). Regional conflicts and geopolitical influences

Addressing the factors that have contributed towards the hybridization of the conflict in Afghanistan needs to be addressed in a multidimensional and integrated manner that would combine both kinetic and non-kinetic forces. Within a hybrid conflict landscape, both states and insurgent groups will be able to take advantage of these factors by ensuring its survival.

Despite, Afghanistan facing less armed violence in 2022 and 2023 in contrast to previous years, the ongoing humanitarian crisis, the threat of famine, worsening economic conditions and multiple internal conflicts have aggravated the ongoing hybrid war (International Crisis Group, 2022). The weaponizing of byproducts of war has further redefined Afghanistan's state of perpetual conflict, leading to the most dominant Jihadist insurgent groups in the country – Taliban, Al Qaida and ISKP engaging in an ideological and propaganda war. Maintaining dominance within the informational (propaganda), psychological, social and political battlespaces is critical for their success, as it strengthens the recruitment drive of these insurgent groups that have remained resilient, despite enduring heavy losses and strategic setbacks.

Following the Taliban's resurgence, Afghanistan is facing two notable insurgencies – (i). The republican insurgency led by the National Resistance Front that comprise of predominantly anti-Taliban secular groups, non-Pashtun communities and members of the former regime, and (ii). The Islamic State Khorasan Province (ISKP), which is the Afghan affiliate of ISIS (ISIL/ Daesh) (International Crisis Group, 2023). Apart from these two major insurgencies in the country, the Taliban is encountering further security challenges that stem from defectors, tribal/sectarian militant groups and cross-border clashes with neighboring states or their proxy forces.

An inherent characteristic in most protracted social conflicts that have lasted generations is the obvious deep-rooted ethnic, religious, political or social divisions. In a hybrid war, state or non-state actors can weaponize and exploit ethnic/social divisions and fault lines, that would act as a catalyst – leading to cycles of competition and conflict. In the case of Afghanistan's perpetual war, sectarian divisions can be weaponized, while the non-military battlespaces such as the political, psychological, ideological, cyber and informational domains are utilized in a synchronized manner. The success rate of weaponizing sectarian and ethnic divisions as an instrument of warfare can be determined by the Taliban and ISKP's ability to alter perceptions and influence instruments of national power, while leveraging from the ensuing chaos and conflict that emanates from the incitement of such divisions.

Many of the non-Pashtun minority ethnic groups have come under increasing threats from regional Taliban

groups, ISKP and other Salafi Jihadist terror groups in the country, which is generating new forms of conflict drivers in an already complex and volatile security environment. The existence of several tribes and divisions within the predominant Pashtun ethnic group alone has contributed towards perpetuating the conflict in Afghanistan. The complex militant landscape has created a conducive environment for a hybrid war that would further empower state actors and militant groups to conduct operations by concealing their attribution and ensuring plausible deniability.

### **D. Transitions of a hybrid militant landscape**

The intricate nature of the militant landscape in Afghanistan has created an avenue for the perpetuation and hybridity of the conflict following the Taliban's transitioned from being the foremost insurgent group in Afghanistan to emerging as the caretaker government. Amongst the most formidable transnational terror groups operating in the country ISKP, Al Qaida and Al Qaida in the Indian subcontinent (AQI) have gained significant prominence due to its renewed capability of maneuvering within multiple operational domains (Gunaratna, 2023; Fuard, 2021).

The hybrid militant landscape has created the conditions for Afghanistan to be used as a hub for regional terrorist groups such as East Turkestan Islamic Movement (ETIM), Tehrik-e Taliban Pakistan (TTP/ also known as the Pakistani Taliban), Jamaat-ul-Ahrar (TTP breakaway group), Islamic Movement of Uzbekistan, Islamic Renaissance Party of Tajikistan, Jundullah (TTP breakaway group), Lashkar-e-Islam, Lashkar-e-Taiba (LeT), Jaish-e-Mohammed (LeJ), Jaish-e-Mohammed, Islamic Renaissance Party of Tajikistan and Harkat-ul-Jihad-al-Islami.

When examining Afghanistan's hybrid militant landscape, it must be considered that the Taliban is not a monolithic entity as it comprises of a coalition of various tribal militant groups and insurgent groups. For instance, the Haqqani Network which is the most prominent and one of the most powerful militant groups aligned with the Taliban is currently playing a significant role in their government, following the overthrow of the Kabul regime in 2021. The close affiliation the Taliban maintains with the Haqqani network and al-Qaeda, is characterized by enduring intergenerational ties dating back to the anti-Soviet Afghan jihad of the 1980s. These alliances have further solidified through the shared experience of combatting U.S. and NATO forces, as well as through familial bonds, including intermarriages.

Similarly, despite the Taliban, Al Qaeda and ISKP having ideological differences, a symbiotic relationship exists between the Afghan and other regional Jihadist combatants that periodically migrate between different militant groups (Sharifi, 2020; Fuard, 2021). Therefore, a significant characterization of the perpetual war in

Afghanistan is marked by the insurgent's ability to morph and evolve within a complex hybrid militant landscape, while weaponizing non-kinetic instruments of warfare that would ensure success at tactical and strategic levels. It is within such a hybrid militant landscape, insurgencies led by the Taliban and ISKP have thrived over the years, despite being weakened due to loss of territory, leaders and combatants.

### **E. Operational Art of the Afghan insurgency**

The operational art of the Taliban is a clear depiction of the effectiveness in employing hybrid warfare strategies, which eventually resulted in a far superior force being politically, psychologically and militarily outmaneuvered. According to Benjamin Jensen (2021) who was part of the NATO led Resolute Support Mission in Afghanistan, the Taliban had executed a fourfold hybrid strategy which focused on: isolating the Afghan military; targeting cohesion through threats by using tailored propaganda and conducting information operations; Utilizing innovative forms of terror tactics to undermine the Afghan government while creating a fear psychosis; and integrating diplomacy with its military and non-kinetic campaigns that paved the way for a peace deal between the U.S. and the Taliban, which further undermined Ashraf Ghani's government.

The resurgence of the Taliban is a testament to its resilience, despite it facing multiple superior state adversaries, while engaging anti-Taliban militant groups such as ISKP (Giustozzi, 2022). The Taliban's ability to avoid any decisive battles by blending irregular tactics, while simultaneously exploiting the non-kinetic battlespaces by conducting information, psychological, diplomatic and political warfare was one of its key reasons behind its success in effortlessly taking over Kabul (Salt, 2018).

The Taliban has been able to outlast the US forces and overthrow a democratically elected Afghan government by gaining tactical victories by using the mountainous terrain and urban battlespaces to their advantage, while avoiding any direct confrontation with the enemy (Trifkovic, 2022). However, for the Taliban to gain an overall strategic advantage, asymmetric and unconventional military strategies alone would have not sufficed. In order to outlast the U.S. and succeed in overthrowing an elected government, the Taliban had to engage in its own form of political warfare by using propaganda tools within the cyber and informational domain to discredit the Ashraf Ghani regime which was embroiled in accusations of corruption and human rights abuses.

The Taliban had executed its most successful psychological operation by giving an ultimatum for the Afghan government forces to surrender with their weapons or else the Afghan government soldiers, and their families would face death if they resisted. Psychological and

information warfare operations was a key component to the Taliban's capabilities of undermining the Afghan security forces and toppling the Ashraf Ghani government. The foundation of the Taliban's hybrid tactic was centered around exploiting the informational and ideological space by promoting their form of Islamist nationalism combined with atrocity propaganda. The abuses within the Afghan state and its close alliance with the U.S. was used as a catalyst to amplify the narratives of injustice and persecution. The online propaganda combined with the involvement in tribal politics and diplomacy, sowed the seeds of discontent against the Ghani regime, which would eventually lead to a section of the Afghan population supporting the Taliban's cause.

However, the weaponizing of atrocity propaganda and engaging in cyber politics is not a new tactic in warfare. ISIS has been able to engage in its own form of cyber politics through its online propaganda campaigns and ideological wars by exploiting the social media space. The shifting battlespaces between the physical to the online domains has added a complex layer which triggers the perpetuation of a conflict within the political, ideological and psychological space.

In the current context the conceptualization of hybrid warfare can be distinguished based on: the current evolution and innovations in warfare; a rapidly evolving geopolitical landscape; the absence of a physical center of gravity; frequent engagement in cyber politics and online information (propaganda/Psypops/misinformation) campaigns; and technological advancement. Prior to the Taliban and ISKP conducting multidimensional operations, during a bygone era that did not possess the power of social media, the Sri Lankan separatist insurgent group, Liberation Tigers of Tamil Eelam (LTTE) successfully pioneered the integration of atrocity propaganda and cyber politics as part of their broader strategy. During the three decade long separatist war waged by the LTTE against the Sri Lankan state, the terror insurgent group effectively exploited cyber space as a battlefield that would have significant internal political and geopolitical ramifications (Vidamage, 2009). The LTTE strategy of exploiting cyber space enabled the terror group to galvanize both local and global support bases that were capable of influencing instruments of national power. The LTTE's strategy of engaging in multiple battlespaces and leveraging the non-kinetic domains is an early depiction of an insurgent's use of hybrid warfare strategies. The LTTE's non-kinetic operations that were aimed at influencing specific target audiences both locally and globally is an operational art that is now followed by ISIS, Taliban, Hezbollah and ISKP.

### **F. Regional conflicts and geopolitical influences**

Over the decades, the geopolitical interests in Afghanistan have been defined by several factors, including its strategic location, access to natural resources, economic opportunities, regional rivalries, and counterterrorism

efforts. Afghanistan is positioned at the crossroads of Central Asia, South Asia, and the Middle East, and the landlocked country maintains a geostrategic nexus between multiple spheres of influence (Voje, 2021). Throughout history, Afghanistan has been dubbed as the 'graveyard of empires' especially since the balance of power in the region has been affected by events that led to the defeat of historic superpowers that includes the militaries of Alexander the Great, Great Britain, USSR and now the United States. Currently, the convergence of internal and regional conflicts, combined with geopolitical influences have added a new lay to the state of perpetual hybridity in Afghanistan, and it is paving the way for instability in the wider region.

The historical influence of the Great Game, Cold War rivalries, and contemporary power struggles exemplifies the shifting balance of power, which has been intricately connected to its regional dynamics. In the current context, countries such as USA, Pakistan, Iran, Turkmenistan, Tajikistan, Uzbekistan, China, India and Russia, have substantial interests in Afghanistan and have historically played influential roles in shaping its political and security environment. Middle Eastern nations such as Saudi Arabia, UAE, Qatar and Turkey have continued to influence Afghanistan's internal affairs by being a key donor to the country. In recent times the Middle Eastern states have contributed towards the Taliban's efforts to transition from a militant group to a legitimate state actor, as this is evident in Qatar's role in facilitating the Doha Talks that led to the 2021 U.S. and NATO withdrawal from Afghanistan.

The events taking place in Afghanistan has attracted the attention of regional powers that are attempting to secure their interests by employing hybrid warfare strategies that are below the threshold of a conventional war. Global security expert, David Kilcullen (2020) has introduced the theory known as 'liminal warfare' which illustrates how state and non-state actors are engaging in warfare within a grey zone that does not qualify to be considered as a justification for war or retaliation. Such a condition is applicable to the current hybrid war that has engulfed Afghanistan, which has emerged as a geopolitical pivot (Chakravarty, 2021). The perpetual hybrid environment has led to state actors to conduct covert multidimensional operations to instill their influence by winning wars without fighting. The events unfolding in Afghanistan is continuously shifting the threat perceptions due to a constantly varying strategic inter-relationship between US, China, India, Pakistan and Russia that are battling to enforce a rebalance to the region (Sanaullah, 2019).

The successful results of a hybrid operation conducted by a state actor in Afghanistan is exemplified by Pakistan's premiere intelligence agency – Inter services intelligence (ISI). Pakistan's hand in ensuring the Taliban successful transition from militant to government was evident when the ISI Chief, Lt. Gen. Faiz Hameed, was present in Afghanistan during the concluding phase of

Taliban's offensive against NRF in Panjshir valley. Pakistan's strong affiliation with key Taliban coalition partners such as the Haqqani network has been described by the U.S. Joint Chief of Staff Mike Mullen as a "de facto extension of the ISI." ISI was able to successfully exploit vulnerabilities within the non-kinetic battlespace that enabled Islamabad to install a Taliban government and set the stage for the militant group to gain legitimacy within a large section of the international community. Trifkovic (2022) asserts, "Pakistan's involvement in Afghanistan was in itself a striking example of a complex, long, and eminently successful hybrid warfare operation. It was directed directly against the U.S. and its allies, and indirectly against India, in pursuit of Islamabad's geostrategic objectives. All along, the pretense of partnership with the U.S. was successfully maintained due to the inexplicable and utterly self-defeating willingness of American officialdom to pretend that all was well, even after the killing of Osama bin Laden."

Pakistan will seek to leverage its success in the Afghan theater by trying to mediate between dissenting parties that are within the Taliban. While the ISI provides military, technical and financial support to ensure the continuity of a Taliban government, Islamabad will seek to build alliances with the many militant and tribal groups that maintain influence and power in Afghanistan. The capability of weaponizing by-products of a conflict are an essential component of hybrid warfare. Those internally displaced by war can be used as a source of human intelligence (HUMINT) and a more lethal force when operated as a state sanctioned proxy force. During all conflicts in Afghanistan, refugees have been used by ISI as proxy militants or intelligence assets, that would provide Islamabad a strategic advantage over India. The nexus between state and non-state actors will inevitably fuel more conflict within the region as this would pose direct security implications to India. Pakistan will have an option of maintaining plausible deniability when using such proxy forces to undermine India in the conflict in Jammu and Kashmir.

Afghanistan will continue to remain strategically significant to India and Pakistan, as long as hostilities and tension between the two states remain constant (Dormandy, 2007). India's geopolitical ambitions in Afghanistan are primarily driven by the objective of countering China's influence in the region and countering Pakistan's influence in Afghanistan. Both these factors that have centered around Afghanistan are part of India's broader strategic priority in ensuring New Delhi's interests are secured.

Since the fall of the first Taliban regime in the wake of 9/11, India has been at the forefront of efforts to rebuild Afghanistan by becoming a leading provider of financial and humanitarian assistance (Betigeri, 2021). Despite India making significant investments in Afghanistan, the resurgence of the Taliban has altered India's influence it once maintained with the Ghani regime. The inability to counter the rise of the Taliban and the incapacity to prevent

China's expansion into Afghanistan are strategic failures on the part of India, which eventually led to Pakistan emerging triumphant in Afghanistan's hybrid war.

However, India will have to adapt to the changing regional security environment as the Afghan lesson has proved that policymakers and strategists in New Delhi will have to work towards a counter hybrid warfare strategy to undermine Pakistan's dominance in the Afghan theater. India is in a position to negotiate with anti-Haqqani network militant groups and anti-Pakistani militants, with the aim of gaining a strategic foothold in Afghanistan. India will seek to exploit any internal fractionalization of the Taliban that would lead to undermining Pakistan's hold on Afghanistan.

As a China and Pakistan backed Taliban government consolidates its power, India has realigned its foreign policy by making attempts to build strong alliances with central Asian states. In 2021, India's foreign minister S Jaishankar held wide-ranging discussions with his central Asian counterparts which had a primary focus on security, economic cooperation and the situation in Afghanistan. During this summit India and Tajikistan signed a series of agreements on security cooperation (Economic Times, 2021). India's recent interest in the Central Asian states (Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, and Turkmenistan) arises from the necessity to engage with developments in Afghanistan. While this renewed engagement between India and Central Asian states may not immediately yield significant benefits for New Delhi, the potential consequences of disengagement are greater. India runs the risk of being excluded from developments in Central Asia and specifically in Afghanistan, and this risk has even led to New Delhi opening a back channel to explore the options of working with the Taliban regime (Basit, 2021). These backchannel talks eventually evolved into an Indian delegation visiting Kabul and holding discussions with senior members of the Taliban government in 2022, which indicates that India is shifting from its previous anti-Taliban stance.

China's ambitions in Afghanistan are closely aligned with Pakistan, primarily due to Beijing's role as a crucial financial ally and a counterbalance against Indian hegemony in the region. China's interest in engaging with the Taliban stems from three strategic objectives: combating terrorism that stems from ETIM (primarily Chinese Uygur Muslims), investing in mineral resources and other economic activities, and extending its Belt and Road Initiative (BRI) to establish regional hegemony (Russel and Berger, 2020). The militant group ETIM which maintains close links to ISKP, is using Afghanistan as a hub to conduct low intensity confrontations and terrorist attacks in the Chinese province of Xinjiang which borders Mongolia, Russia, Kazakhstan, Kyrgyzstan, Tajikistan, Afghanistan, Pakistan and India. China has secured a commitment from the Taliban to counter the ETIM militants and to prevent them from using Afghanistan as a hub for their activities. In recent times ETIM militants and Uygur Chinese suicide

bombers have joined ISKP, leading to several deadly attacks targeting Chinese nationals in Afghanistan and Pakistan. By providing substantial aid packages and economic incentives to Afghanistan, China will hold significant leverage over the Taliban. The China-Pakistan partnership will be bolstered by China's substantial financial resources and Pakistan's close relationships with the Taliban, creating a strong axis with interests deeply intertwined in the affairs of Afghanistan.

The Afghan conflict has far-reaching implications at the regional level, given Afghanistan's geographical proximity to six neighboring countries: Pakistan, Iran, Tajikistan, Uzbekistan, Turkmenistan, and China (Strand and Harpviken, 2001). Each of these nations holds distinct interests concerning the conflict, leading to the pursuit of diverse political strategies. This is clearly depicted in the Iran-Afghan relations which have deteriorated significantly and is marked with regular border skirmishes following the 2021 Taliban takeover of Kabul. Iran has also been engaging in a proxy war by providing military and financial support to the National Resistance Front and other Shia Muslim minority groups that have come under the grip of persecution following the Taliban takeover. Similarly, an ensuing border conflict between Kyrgyzstan and Tajikistan is adding further complications to the regional security environment that will have an effect on Afghanistan. The multiple regional conflicts have created an environment for war to be perpetuated by means of proxy, political subversions, diplomacy, economic sanctions, information operations, cyber operations and other non-kinetic forms that is constantly altering the trajectory of Afghanistan's conflict.

The regional security implications that have transpired due to the rise and growth of ISKP has created an opportunity for the Taliban to project an image that they can leverage within the geopolitical realm. The rise of ISKP along with the plans of withdrawing American and NATO troops from what has been viewed as an unwinnable protracted war, set in motion events that would lead to the U.S. signing a peace deal with their onetime enemy. The Doha Talks set the foundation for the Taliban to annex state power by overthrowing the government in Kabul by pledging to the U.S. to prevent Afghanistan being used as a hub for transnational terrorism by groups such as ISKP and Al Qaeda, in return for a complete troop. The U.N. Security Council unanimously backed the deal with the Taliban, which was perceived as the best of the worse alternatives considering that the global security agenda has primary focus on neutralizing ISKP, which is perceived as more radical than most other Jihadist groups operating in the country. However, the drone strike which killed Al Qaeda leader, Ayman al Zawahiri in Kabul in 2022 proved that the Taliban was not sincere in its plans of preventing Al Qaeda from operating in Afghanistan. By conducting drone strikes similar to the one that killed al Zawahiri, the U.S. has clearly

displayed its intentions of continuing to be involved in Afghanistan through their “Over the Horizon” campaigns.

Much like the Taliban, ISKP has been conducting its own tribal forms of diplomacy to gain the support of tribal groups and Jihadist networks. Many regional and Pakistani based Jihadist groups have already pledged their support to ISKP which makes them a formidable contender that would challenge the Taliban’s internal hegemony in Afghanistan. While creating alliances with regional jihadist networks and winning over a significant support base in the rural parts of Afghanistan, ISKP will seek to gain a global support base that is driven by regional conflict, specifically in regions such as the Afghan-Pakistan border known as the Duran line, Baloch insurgency in Pakistan, the conflict in Xinjiang province which has led to large number of Uyghur Muslims joining ETIM which collaborates with ISKP and the conflict in Kashmir. ISKP is galvanizing their support base by discrediting the Taliban, while inciting a sectarian conflict by continuing to target minority religious groups and Shia Muslims in Afghanistan. The additional layers within Afghanistan’s conflict that has also become intertwined with regional conflicts will create the justification for a regional response, leading to state actors engaging in clandestine operations, using proxy forces, surgical strikes and even creating the path for direct intervention.

Following the defeat of ISIS Central in Iraq and Syria, the resilience shown by ISKP clearly indicates that the transnational terror group has ambitions of going beyond Afghanistan which is a narrative that resonates with its ideology of rebuilding its lost pan-Islamist Caliphate in Iraq and Syria (Fuard, 2021). A 2018 UN Security Council report states that as ISIS Central continued to lose territory and combatants in Iraq and Syria, many of its foreign terrorist fighters (FTF) who are nationals of Algeria, France, Russia, Tunisia and Central Asian are migrating to Afghanistan, which has created a major cause for concern for regional security in South and Central Asia (UN Security Council, 2018).

#### IV. CONCLUSION

Many analysts observe that the Taliban abandoning its previous hardline stance to appease international actors has led to dissatisfaction and defection within its ranks. A probable implication of a state of perpetual hybridity in Afghanistan is represented by the possible situation of ISKP resurrecting its Caliphate in Afghanistan by gaining territory, population and establishing its own de facto government by ousting the Taliban, thereby justifying an international military intervention to neutralize a grave transnational threat. The unfolding events has presented an opportunity for Al Qaida to regain its former glory within the Jihadist realm by conducting symbolic global scale attacks, much like the 2019 Easter Sunday bombings perpetrated by an ISIS inspired network of suicide bombers in Sri Lanka. Al Qaeda’s close ties with the Taliban will play

a major role in their ambitions of using Afghanistan as a launchpad to conduct terror activities in the region, with the aim of regaining its global appeal that has been overtaken by ISIS (Rohan Gunaratna, 2023).

The three key elements that are fueling the state of perpetual hybridity in Afghanistan are: the complex militant dynamics in Afghanistan; regional conflicts and insurgency, and geopolitical competitions. These three elements which are intertwined will create new forms of regional threats that will continue to evolve, primarily due to the shifting battlespaces that have created new centers of gravity. As long as the focus on Afghanistan’s conflict remains on the tangible factors, the lack of foresight on the non-kinetic battles will yield a detrimental outcome for regional security. In Afghanistan and in most hybrid wars the battle within the psychological, diplomatic, informational, cyber and political domains will determine the outcome of a conflict in a globally digitalized era. Due to the convergence of geopolitical interests and militant dynamics, the cycle of Afghanistan’s perpetual war has paved the way for a state of perpetual hybridity, which is threatening regional security in South and Central Asia.

#### REFERENCE

1. Arnold, A (1985). *Afghanistan: The Soviet Invasion in Perspective*. Hoover Press Publication. Stanford University. Available at: [https://books.google.lk/books?id=REwMr2bFYfKc&pg=PA55&redir\\_esc=y#v=onepage&q&f=false](https://books.google.lk/books?id=REwMr2bFYfKc&pg=PA55&redir_esc=y#v=onepage&q&f=false)
2. Amies, N (2009). *Paying for peace*. DW. Available at: <https://www.dw.com/en/allegations-of-taliban-bribery-stoke-debate-on-afghan-engagement/a-4804047>
3. Basit, A. (2021). *Why did India open a backchannel to the Taliban?* Al Jazeera. Available at: <https://www.aljazeera.com/opinions/2021/7/7/why-did-india-open-a-backchannel-to-the-taliban>
4. B rzi š, J (2020). *The Theory and Practice of New Generation Warfare: The Case of Ukraine and Syria*. The Journal of Slavic Military Studies. Volume 33, 2020 - Issue 3. Routledge. Available at: <https://doi.org/10.1080/13518046.2020.1824109>
5. Betigeri, A. (2021). *Another proxy war in Afghanistan*. The Interpreter. The Lowy Institute. Available at: <https://www.loyyinstitute.org/the-interpreter/another-proxy-war-afghanistan>

6. Chakravarty, P.R. (202), Why Afghanistan will be a new geopolitical pivot. Observer Research Foundation (ORF). Available at: <https://www.orfonline.org/research/why-afghanistan-will-be-a-new-geopolitical-pivot/>
7. Danner, M (2005). "Taking Stock of the Forever War". The New York Times. Available at: <https://web.archive.org/web/20180329125623/http://mondrian.die.udec.cl/~mmedina/Desvarios/Files/Danner-TakingStockOfTheForeverWar.pdf>
8. Dormandy, X. (2007). Afghanistan's Proxy War. Boston Globe, republished at Belfer Center for Science and International Affairs. Harvard Kennedy School. Available at: <https://www.belfercenter.org/publication/afghanistans-proxy-war>
9. Economic Times (2021). India- Tajikistan to expand connectivity, security and trade ties. Available at: <https://economictimes.indiatimes.com/news/india/india-tajikistan-to-expand-connectivity-security-trade-ties/articleshow/88364047.cms>
10. Eilam, E. (2016) Israel's Future Wars: Military and Political Aspects of Israel's coming Wars. Washington DC: Westphalia Press. ISBN 1633915069. Available at: <https://www.amazon.com/Israels-Future-Wars-Military-Political/dp/1633915069>
11. Ferguson, M. (2022). Sun Tzu's Trap: The illusion of perpetual competition. Modern War Institute. West Point, USA. Available at: <https://mwi.westpoint.edu/sun-tzus-trap-the-illusion-of-perpetual-competition/>
12. Fuard, A. (2018). Countering Terrorism and violent extremist propaganda in Sri Lanka. General Sir John Kotelawala Defence University. 11th International Research Conference of General Sir John Kotelawala Defence University. Available at: <http://ir.kdu.ac.lk/handle/345/2537>
13. Fuard, A. (2021). Can the Islamic State - Kohrasan Province resurrect the Caliphate in Afghanistan? Journal of Defence and Policy Analysis Vol. 01 Issue. 01. General Sir John Kotelawala Defence University. Available at: <http://ir.kdu.ac.lk/handle/345/5271>
14. Giustozzi, A. (2022). The Emergence of Hybrid Warfare in Afghanistan: Taliban and Islamic State. A conversation with Dr Antonio Giustozzi, Senior Research Fellow, Terrorism and Conflict, RUSI, discussing his latest books entitled 'Taliban at War' and 'The Islamic State in Khorasan'. Royal United Service Institute (RUSI). Available at: <https://rusi.org/events/members-events/emergence-hybrid-warfare-afghanistan-taliban-and-islamic-state>
15. Gharji, E (2012). Afghanistan: state, boundaries, And the threats of Perpetual Conflict. Central Asia Security Policy Briefs. OSCE ACADEMY - GCSP INTERNATIONAL SECURITY PROGRAMME. Available at: [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://osce-academy.net/upload/Policy\\_briefs/Policy\\_Brief\\_9.pdf](chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://osce-academy.net/upload/Policy_briefs/Policy_Brief_9.pdf)
16. Gunaratna, R. (2023). Sri Lanka's Easter Sunday Massacre: Lessons for the International Community. Penguin Random House. ISBN: 9789814954631
17. Haz rah, F.M.K ed McChesney, R.D. (1999). Kabul Under Siege: Fayz Muhammad's Account of the 1929 Uprising. Markus Wiener Publishers. University of Michigan. ISBN 9781558761544.
18. Hoffman F.G. (2007). Conflict in the 21st Century: The Rise of Hybrid Wars. Potomac Institute for Policy Studies. Arlington, Virginia. Available at: [https://www.potomac institute.org/images/stories/publications/potomac\\_hybridwar\\_0108.pdf](https://www.potomac institute.org/images/stories/publications/potomac_hybridwar_0108.pdf)
19. Hoffman F.G. (2009). Hybrid Threats: Reconceptualizing the Evolving Character of Modern Conflict. Strategic Forum. Institute for National Strategic Studies. National Defense University. Available at: <https://www.files.ethz.ch/isn/98862/SF240.pdf>
20. Hoffman, B (2006). Inside terrorism. New York: Columbia University Press. ISBN 9780231126991
21. International Rescue Committee (IRC) (2022). The top 10 crises the world can't ignore in 2022. Available at: <https://www.rescue.org/article/top-10-crises-world-cant-ignore-2022>
22. Institute for Economics and Peace (2023). Global Terrorism Index 2023. Available at: <https://www.visionofhumanity.org/wp-content/uploads/2023/03/GTI-2023-web-170423.pdf>
23. International Crisis Group (2022). Afghanistan's security challenges under the Taliban. <https://www.crisisgroup.org/asia/south->

- asia/afghanistan/afghanistans-security-challenges-under-taliban
24. International Crisis Group (2023). Afghanistan: The Taliban Restrict Women's Rights, Worsening the Humanitarian Crisis. Available at: <https://www.crisisgroup.org/asia/south-asia/afghanistan/afghanistan-taliban-restrict-womens-rights-worsening-humanitarian-crisis#:~:text=Afghanistan%20started%202023%20facing%20less,disorder%20remain%20on%20the%20horizon.>
25. Jemsen, B (2021). How the Taliban did it: Inside the 'operational art' of its military victory. Atlantic Council. Available at: <https://www.atlanticcouncil.org/blogs/new-atlanticist/how-the-taliban-did-it-inside-the-operational-art-of-its-military-victory/>
26. Keen, D (2006). Endless war? Hidden functions of the 'war on terror'. London: Pluto Press. ISBN 978-0-7453-2417-3.
27. Kilcullen, D (2020). The Dragons and the Snakes: How the Rest Learned to Fight the West. Oxford University Press. ISBN 9781787387218
28. Kilcullen, D (2015) Out of the Mountains: The Coming Age of the Urban Guerrilla, Oxford University Press.
29. Kilcullen, D. (2005), "Countering Global Insurgency," The Journal of Strategic Studies. Vol 28. Issue 4. Available at: <https://www.tandfonline.com/doi/abs/10.1080/01402390500300956>
30. Konyshov, V. and Parfenov, R. (2019). Hybrid Wars – between Myth and Reality. World Economy and International Relations, 2019, vol. 63, no. 12. Available at: [https://www.academia.edu/41052520/HYBRID\\_WARS\\_BETWEEN\\_MYTH\\_AND\\_REALITY](https://www.academia.edu/41052520/HYBRID_WARS_BETWEEN_MYTH_AND_REALITY)
31. Maizland, L (2023). The Taliban in Afghanistan. Council on Foreign Relations. Available at: <https://www.cfr.org/background/taliban-afghanistan>
32. Mukhopadhyaya, G. (2021). In Afghanistan's Collapse, a Win for Pakistan's 20-Year Long Covert, Hybrid War". News18. Available at: <https://www.news18.com/news/opinion/afghanistan-collapse-win-for-pakistan-20-year-long-covert-hybridwar-4205126.html>
33. Piotrowski M.A. (2015). Hezbollah: The model of a hybrid threat. Bulletin No 24 (756). The Polish Institute of International Affairs. Available at: [www.files.ethz.ch/isn/188946/Bulletin%20PISM%20no%2024%20\(756\)%20%20March%202015.pdf](http://www.files.ethz.ch/isn/188946/Bulletin%20PISM%20no%2024%20(756)%20%20March%202015.pdf)
34. Russell, J. A. (2004). "Asymmetrical Warfare: Today's Challenge to U.S. Military Power". Naval War College Review: Vol. 57 : No. 1 , Article 19. Available at: <https://digital-commons.usnwc.edu/nwc-review/vol57/iss1/19>
35. Russel, D.R. and Berger, B.H. (2020). Weaponizing the Belt and Road Initiative (Report). The Asia Society Policy Institute, Washington D.C. Available at: [https://asiasociety.org/sites/default/files/2020-09/Weaponizing%20the%20Belt%20and%20Road%20Initiative\\_0.pdf4](https://asiasociety.org/sites/default/files/2020-09/Weaponizing%20the%20Belt%20and%20Road%20Initiative_0.pdf4)
36. Sanaullah, M (2019). Hybrid Warfare – A New Baseline of Instability in South Asia. Strategic Thought -2019 (Issue- 1). National Defence University, Islamabad. Available at: <https://strategictthought.ndu.edu.pk/site/article/download/53/43/53>
37. Sarkees, M.R. and Wayman, F (2010). Resort to War: 1816 – 2007. SAGE Publications. The University of Michigan. ISBN 9780872894341. Available at: [https://books.google.lk/books?id=CvooAQAAMAAJ&redir\\_esc=y](https://books.google.lk/books?id=CvooAQAAMAAJ&redir_esc=y)
38. Salt, A. (2018). Transformation and the War in Afghanistan. Strategic Studies Quarterly, Vol. 12, No. 1. Available at: <https://www.jstor.org/stable/26333879>
39. Stoker, D. and Whiteside, C. (2020). Blurred Lines: Gray-Zone Conflict and Hybrid War—Two Failures of American Strategic Thinking American Strategic Thinking. Naval War College Review: Vol. 73 : No. 1 , Article 4. Available at: <https://digital-commons.usnwc.edu/nwc-review/vol73/iss1/4>
40. Strand, A and Harpviken, K.B. (2001). Afghanistan and the International Community: What Now?, Security Dialogue 32 (4). Peace Research Institute Oslo (PRIO). Available at: <https://www.prio.org/publications/2454>



41. Sharifi, A (2020), Islamic State Wilayat Khorasan: Phony Caliphate or bona fide province?, The Observer Research Foundation. Available at: <https://www.orfonline.org/research/islamic-statewilayat-khorasan-phony-caliphate-or-bona-fide-province/>
42. UN Security Council Report (2021), Committee pursuant to resolutions 1267 (1999), 1989 (2011) and 2253 (2015) concerning Islamic State in Iraq and the Levant (Da'esh), Al-Qaida and associated individuals, groups, undertakings and entities, UN Security Council. Available at: [https://www.securitycouncilreport.org/atf/cf/%7B65BF-CF9B-6D27-4E9C-8CD3CF6E4FF96FF9%7D/S\\_2021\\_655\\_E.pdf](https://www.securitycouncilreport.org/atf/cf/%7B65BF-CF9B-6D27-4E9C-8CD3CF6E4FF96FF9%7D/S_2021_655_E.pdf)
43. UN Security Council Report (2018), Security Council Committee pursuant to resolutions 1267 (1999), 1989 (2011) and 2253 (2015) concerning Islamic State in Iraq and the Levant (Da'esh), Al-Qaida and associated individuals, groups, undertakings and entities, UN Security Council. Available at: <https://undocs.org/S/2018/705>
44. Vidanage, H (2009). Exploring the impact of online politics on political agents and political strategies in the Sri Lankan Tamil diaspora. The University of Edinburgh.
45. Voje, J (2021). Afghanistan: Geopolitical Hotspot. Munich Security Conference. Available at: <https://securityconference.org/en/media/msc-blog/article/afghanistan-geopolitical-hotspot/>
46. Wither, J.K. (2016). Making sense of Hybrid Warfare. Connections, Vol. 15, No. 2 (Spring 2016). Partnership for Peace Consortium of Defense Academies and Security Studies Institutes. Available at: <https://www.jstor.org/stable/10.2307/26326441>

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# Nexus Between Climate Change and Human Security in Sri Lanka: Implications for Small Island Developing States in the Indian Ocean Region

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**Abstract** – This study explores the interconnectedness of climate change and human security in Sri Lanka and its broader implications for Small Island Developing States (SIDS) in the Indian Ocean region. The research addresses a critical gap in understanding the complex relationship between climate change impacts and the challenges faced by human security in Sri Lanka, with implications for similarly vulnerable island nations in the Indian Ocean region. The research problem stems from the recognition that climate change poses substantial risks to human security in Sri Lanka, particularly in SIDS in the Indian Ocean region. The objectives of this research are to examine the specific impacts of Climate Change on Human Security in Sri Lanka, assess the climate change-induced Human Security challenges faced by Sri Lanka, and recommend evidence-based adaptation and mitigation strategies to Sri Lanka and other SIDS in the IOR. The research methodology features a qualitative approach blending desk review with participatory methods, like case studies, enabling a comprehensive exploration of the research problem. A participatory approach involves Focus Group Discussions (FGDs) and semi-structured interviews with affected communities, local leaders, and experts. Data analysis employs the Conflict Tree Visualization tool to illustrate causes, problems, and effects. To bolster reliability, a triangulation approach cross-references data from various sources. The results demonstrate that climate change exacerbates existing vulnerabilities and poses significant threats to human security in Sri Lanka and other SIDS in the Indian Ocean region. The findings reveal the interconnected nature of climate change impacts and human security challenges, highlighting the necessity of integrated approaches that address social, economic, and environmental dimensions. In conclusion, this study emphasizes the significance of enhancing resilience measures and strategies to protect vulnerable communities and ensure sustainable development in SIDS in the Indian Ocean region.

**Keywords:** Climate Change, Human Security, Sri Lanka, Small Island Developing States, Indian Ocean Region

## I INTRODUCTION

Climate change poses significant risks to human security, particularly in small island states within the Indian Ocean region (IPCC, 2022). The impacts of climate change, such as rising sea levels, increased frequency and intensity of extreme weather events, and changes in precipitation patterns, have far-reaching consequences for the well-being and livelihoods of the population in these vulnerable island nations (UNEP, 2020). Among these countries, Sri Lanka stands as a compelling case study to explore the intersection between climate change and human security. This small island state faces a range of climate-related challenges, including coastal erosion, loss of land, water scarcity, and disruptions to agriculture and food security (Ministry of Mahaweli Development and Environment, 2016). Understanding the implications of climate change on human security in Sri Lanka can provide valuable insights into the broader context of climate change impacts on Small Island Developing States (SIDS) in the Indian Ocean region and inform the development of effective adaptation and mitigation strategies to safeguard the well-being of vulnerable communities.

Studies have extensively examined the impacts of climate change on various scales, including global, regional, and local levels (Smith et al., 2019; UNEP, 2020). However, there is a noticeable gap in comprehensive research that specifically addresses the unique challenges and vulnerabilities faced by SIDS in the Indian Ocean region. These SIDS, including Sri Lanka, possess distinct socio-economic and geographical characteristics that significantly influence the way climate change impacts human security (IPCC, 2022). Despite the existing literature on climate change and human security, it often fails to provide in-depth insights into the specific risks and coping mechanisms of vulnerable communities in SIDS like Sri Lanka, thereby leaving a research gap that necessitates focused

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investigation (Smith et al., 2019; Ministry of Mahaweli Development and Environment, 2016).

The research problem at hand delves into the intricate relationship between climate change and human security in Sri Lanka, with a broader perspective on its implications for SIDS in the Indian Ocean region. This study seeks to address a critical research gap by providing a comprehensive understanding of the specific challenges confronting vulnerable communities in the face of climate change.

The primary objective of this research is to investigate and analyze the precise impacts of climate change on human security within the context of Sri Lanka. Another objective is to assess and identify the specific human security challenges exacerbated by climate change in Sri Lanka. The final objective of this study is to provide evidence-based recommendations for adaptation and mitigation strategies, not only for Sri Lanka but also for other SIDS in the Indian Ocean region facing similar challenges.

This research endeavours to shed light on the complex interplay between climate change and human security in Sri Lanka, ultimately offering valuable insights and actionable strategies to safeguard the well-being and livelihoods of vulnerable populations, both within Sri Lanka and across the broader Indian Ocean region.

## II. LITERATURE REVIEW

The nexus between climate change and human security has gained increasing attention on the global arena. The United Nations (UN) was founded in the aftermath of World War II with a core mission of ensuring international peace and security, as articulated in the charter's preamble: "*to save succeeding generations from the scourge of war*" (UN, 1945). This historical context underscores the foundational role of peace and security in the UN's mission. In 1992, the United Nations Framework Convention on Climate Change (UNFCCC) was adopted during the Rio Earth Summit. This landmark framework aimed to prevent "dangerous" human interference with the climate system. Importantly, it acknowledged the critical importance of both climate change mitigation and adaptation in maintaining peace and preventing conflicts (UNFCCC, 1992).

National security comprises "*measures taken by a state to ensure the safety and well-being of its citizens, protect its sovereignty, and safeguard its territorial integrity against internal and external threats.*"

It encompasses various dimensions, including military, economic, political, and environmental security (Mendis, 1992). The UN General Assembly report entitled "Climate Change and its Possible Security Implications" (A/64/350) addresses various points related to the impact of climate change on SIDS and their security implications (UN General Assembly, 2009).

The report recognizes climate change as a significant threat to SIDS due to their geographical vulnerabilities. It highlights the security implications of climate change for SIDS, including the potential for increased conflict over scarce resources, displacement of populations, and damage to critical infrastructure.

Additionally; UN General Assembly, 2009 emphasizes the concept of human security, which includes protection from climate-induced threats such as food and water scarcity, loss of livelihoods, and forced migration. Furthermore; it highlighted that the climate change mitigation and adaptation efforts can contribute to conflict prevention in SIDS by addressing the root causes of potential conflicts related to resource scarcity.

Within the UNFCCC framework, the National Adaptation Plan (NAP) process was established. This process assists countries in identifying their specific adaptation needs and formulating strategies to address these needs effectively (McGray, 2014). A significant milestone occurred in 2015 during the Conference of Paris, where 196 countries collectively adopted the Paris Agreement. This legally binding international treaty on climate change aims to limit global warming to below 2 degrees Celsius, with a preference for 1.5 degrees Celsius. To contribute to the global goals outlined in the Paris Agreement, countries have committed to developing and implementing their Nationally Determined Contributions (NDCs). These NDCs encompass national climate action plans that include targets for reducing Greenhouse Gas emissions and enhancing adaptation efforts (Streck et al., 2016).

The United Nations Security Council is an important instrument for integrating climate change and environmental considerations into peace and security policymaking. As of May 2021, the Security Council has recognized the adverse effects of climate change among other factors. For example, in its Resolution 2527 (2020) on Somalia, the Council recognizes "the adverse effects of climate change, other ecological changes, natural disasters, among other factors, on the stability of Somalia, including through drought, desertification, land degradation, and food insecurity (UN Security Council, 2020).

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For the first time, the 2020 annual report of the UN Secretary-General on women, peace, and security includes a dedicated section on climate change and its peace and security implications. The report urges governments to integrate climate change considerations into their National Action Plans on women, peace, and security.

To help countries achieve the ambitious global prevention agenda, United Nations Common Country Analyses (UN CCAs) are carried out as an inclusive, multi-stakeholder process to assess gaps, opportunities, and strategic direction at the country level. Ensuring that UN CCAs are informed by integrated climate security analysis is an important step in delivering on key inter-related SDGs. To this end, several existing global frameworks provide the foundation for policy-making to address climate-related security risks.

Further, the 2030 Agenda, adopted by world leaders in 2015, is a comprehensive "plan of action for people, planet, and prosperity." It includes 17 Sustainable Development Goals and 169 targets. Responsive action on climate security can help us achieve goals on climate action (Goal 13), inclusive peace (Goal 16), among other goals on sustainability, inclusion, and peace.

This recognizes that climate change and human security are deeply interconnected. Beyond armed conflict, insecurity exists in various forms and at multiple levels, including political, economic, community, and personal. This comprehensive understanding highlights that "sustaining peace" encompasses activities aimed at preventing the outbreak, escalation, continuation, and recurrence of conflict (United Nations, 2017).

To broaden the understanding of security, the concept of human security has gained prominence. This approach encompasses a range of security risks that affect people's daily lives globally, including threats related to climate change, such as food insecurity, displacement, and health issues (UNDP, 1994). The literature highlights contemporary challenges in the context of climate change, and human security. Rising internal displacements associated with both disasters and conflicts (IDMC, 2023), coupled with an increasing number of people in need of humanitarian assistance (OCHA, 2023), underscore the urgency of addressing these interrelated issues. Nevertheless, a significant funding gap hinders effective humanitarian responses (OCHA, 2023).

Effective strategies for addressing climate-related security risks must involve diverse stakeholders, including local communities, and indigenous peoples

(IAGN, 2023). Initiatives like the Local Communities and Indigenous Peoples Platform (LCIPP) under the UNFCCC aim to facilitate knowledge exchange and best practices for holistic mitigation and adaptation.

Fragility, as defined by the Organisation for Economic Co-operation and Development (OECD), encompasses the combination of exposure to various risks and the limited coping capacity of governments, systems, or communities to manage, absorb, or mitigate these risks. Fragility manifests across multiple dimensions, including environmental, political, societal, economic, and security aspects. This multifaceted nature of fragility can result in adverse outcomes, such as violence, poverty, inequality, displacement, and environmental and political degradation (OECD, 2020).

Resilience, in contrast, refers to the capacity of individuals, communities, and states to withstand and rebound from shocks while positively adapting to long-term changes. Resilience efforts may involve substantial transformations in core structures and institutions, making them better suited to evolving environments (OECD, 2018). Building resilience hinges on inclusive and sustainable development, addressing inequalities, reinforcing institutions, and ensuring that development strategies integrate risk considerations. This approach, as emphasized by the United Nations and World Bank, represents a powerful means of prevention in the face of fragility and climate-related challenges (United Nations and World Bank, 2018).

Sri Lanka's extensive coastline, including major cities like Colombo and Galle, is exposed to sea-level rise and coastal erosion. Studies indicate that this threatens infrastructure, displaces communities, and disrupts livelihoods (Seneviratne et al., 2020). The island experiences an increasing frequency of extreme weather events, including cyclones and heavy rainfall. These events lead to flooding, landslides, and property damage, particularly in hilly regions (Munasinghe et al., 2019).

Irregular monsoons and shifting rainfall patterns impact agriculture, the backbone of Sri Lanka's economy. Crop failures result in food insecurity, affecting both rural and urban populations (Hettiarachchi et al., 2018). Prolonged droughts have intensified water scarcity issues in Sri Lanka. This has implications for drinking water supply, agriculture, and hydropower generation (Fernando et al., 2021).

Vulnerability is often tied to socioeconomic status. Low-income and marginalized communities lack the resources to adapt effectively. Women, in particular, face gender-specific vulnerabilities due to societal norms

and limited access to resources (UNDP Sri Lanka, 2020). Coastal communities are at the forefront of climate impacts. Vulnerability is exacerbated by inadequate housing, sanitation, and infrastructure in these areas (Hapuarachchi et al., 2017).

Climate change exacerbates health risks, including the spread of waterborne diseases during floods and heat-related illnesses during extreme heatwaves. Vulnerable populations face increased health disparities (WHO Sri Lanka, 2019). Communities heavily reliant on natural resources, such as forests and fisheries, are vulnerable to ecosystem changes and degradation caused by climate change. Disruptions in these sectors affect livelihoods (ADB, 2020).

Sri Lanka has implemented a range of policies and strategies aimed at enhancing climate resilience, disaster preparedness, and adaptation. These initiatives encompass the establishment of early warning systems, the implementation of climate-resilient infrastructure projects, and the development of comprehensive disaster management plans (UNDP Sri Lanka, 2020).

Local communities have developed adaptive strategies through community-based organizations, sharing traditional knowledge, and implementing local-level projects. These initiatives enhance resilience and coping capacity (Jayatilleke et al., 2019). Sri Lanka receives support from international organizations and donors to enhance its climate resilience efforts, including infrastructure development and capacity-building programs (World Bank, 2021).

Given the increasing urbanization in Sri Lanka, there is a need for in-depth studies on urban vulnerability to climate change and the effectiveness of urban adaptation measures. Assessing the effectiveness of climate policies and their alignment with the needs of vulnerable communities is essential for informed policy-making (World Bank, 2021).

### III. METHODOLOGY

This study employs a qualitative research approach, combining both desk review and participatory methods, including case studies. This approach enables a comprehensive exploration of the research problem by drawing from existing knowledge and engaging with affected communities directly.

To capture the nuanced perspectives and experiences of those most impacted, this study incorporates a participatory approach. This involves conducting Focus Group Discussions (FGDs) with

affected communities and conducting semi-structured interviews with community members, local leaders, and subject matter experts. FGDs promote open dialogue among community members, fostering a collective understanding of their challenges, while interviews provide in-depth insights from key stakeholders.

Data analysis is facilitated by utilizing a Conflict Tree Visualization tool. In this method, the causes of the issues under investigation are depicted as the roots of the tree, the core problems as the trunk, and the resulting effects as the branches and leaves. This visual representation offers a clear and structured way to understand the complex web of causation, problems, and effects.

To enhance the validity and reliability of the findings, a triangulation approach is adopted. Triangulation involves cross-referencing multiple data sources and research methods. By combining information gathered from desk reviews, FGDs, and interviews, the study can ensure that the findings are robust and consistent. This method reduces bias and enhances the overall credibility of the research.

Throughout the research process, ethical considerations are diligently addressed. This includes obtaining informed consent from all participants, ensuring confidentiality and anonymity of sensitive information, and adhering to established ethical guidelines for research involving human subjects. The ethical framework underpinning this study safeguards the well-being and rights of all individuals involved in the research.

### IV. ANALYSIS OF THE STUDY

In Sri Lanka, the impacts of climate change are evident in various sectors. According to the Climate Risk Index 2021, Sri Lanka ranks among the countries most affected by climate change in terms of extreme weather events (Germanwatch, 2021). The country has experienced an increase in the frequency and intensity of extreme weather events, such as floods and cyclones. For instance, between 2000 and 2019, Sri Lanka witnessed 19 major floods, affecting over 12 million people and resulting in significant economic losses (National Disaster Management Centre, 2020).

The impacts of climate change also extend to coastal areas in Sri Lanka, where sea-level rise and coastal erosion pose significant challenges. According to Dissanayake et al., 2021, Sri Lanka's coastline has been experiencing an average erosion rate of 0.3 to 0.6 meters per year, resulting in the loss of land and displacement of

coastal communities. These coastal vulnerabilities not only disrupt livelihoods but also create social and economic tensions, potentially leading to conflicts over resources and displacement.

Sri Lanka is projected to experience a substantial loss of 1.5% of its GDP by 2050 due to climate-related issues. This stark prediction underscores the pressing urgency of taking decisive climate action to mitigate these impacts effectively. Sri Lanka's climate ambition encompasses a dual-pronged approach. Firstly, it involves the launch of Sri Lanka's Climate Prosperity Plan 2022, which focuses on achieving green growth through the generation of renewable energy. This plan leverages the advantages of wind and solar energy to facilitate economic restructuring, particularly following the financial crisis of 2022.

Secondly, Sri Lanka is actively supporting the establishment of a Climate Justice Forum, a platform designed to foster international collaboration in addressing climate-related challenges. These challenges encompass a wide range of issues, including loss and damage, adaptation, and mitigation. Recognizing the finite nature of global resources, Sri Lanka places strategic emphasis on areas where maximum results can be achieved in the realm of climate action and environmental sustainability.

Sri Lanka has presented two noteworthy proposals on the global stage in 2022. First, it advocates for the establishment of an International Climate Change University, envisioned as a research and development platform dedicated to advancing climate mitigation actions. Second, Sri Lanka has introduced the Tropical Belt Climate Ambition Project, which centres on biodiversity conservation, renewable energy adoption, nature-based solutions, and pollution control within the tropical belt. This project aims to make a positive global impact in the fight against climate change.

This comprehensive research delves into the multifaceted realm of climate-induced vulnerabilities and their far-reaching effects in the context of Sri Lanka. Four distinct case studies were meticulously conducted, each in different geographical areas, carefully selected based on their susceptibility and the frequency of particularly devastating natural disasters.

The analysis employed a Conflict Tree Visualization tool, a robust method that unveils the intricate relationships between the *core causes*, *core problems*, and *profound effects* stemming from these environmental vulnerabilities.

## A. *Analysis of Case Study 1: Coastal Vulnerability in Jaffna Peninsula*

The case study of coastal vulnerability in the Jaffna Peninsula illuminates a grave and multifaceted issue exacerbated by climate change. The analysis of this case study encompasses an examination of the causes, problems, and effects of coastal vulnerability in Jaffna peninsula.

### 1) *Core Causes*

**Rising Sea Levels:** The documented average sea-level rising rate of 1.4 to 3.5 mm per year over the past few decades presents a significant challenge. This dangerous trend amplifies the risk of coastal erosion, coastal flooding, and saltwater intrusion, all of which threaten the livelihoods of coastal communities.

**Irregular Weather Patterns:** The erratic weather patterns resulting from climate change bring irregular precipitation to Jaffna. These unpredictable climatic fluctuations undermine the resilience of coastal communities, rendering them ill-equipped to cope with the unpredictability of their changing environment.

**Inadequate Infrastructure Development:** Unplanned and insufficient infrastructure development along the coast exacerbates the region's vulnerability. Poorly constructed buildings and roads in flood-prone areas amplify the risks faced by residents.

**Land Degradation:** Activities such as deforestation, improper land use, and unsustainable agricultural practices collectively lead to soil erosion and weaken the natural buffer against coastal vulnerabilities.

**Lack of Climate Adaptation:** Traditional agricultural practices and livelihoods in the Jaffna are often ill-suited for the evolving climate. Communities struggle to adapt to changing conditions, which further compounds the economic and livelihood challenges they face.

### 2) *Core Problems*

**Coastal Erosion:** This issue is pressing, and data from the Sri Lanka Department of Coast Conservation and Coastal Resource Management (2019) indicates an alarming average coastal recession rate of 1.2 meters per year. Coastal erosion threatens infrastructure and habitats in Jaffna.

**Coastal Flooding:** IPCC, 2022 predicts a surge in extreme weather events, including heavy rainfall and storms, leading to coastal inundation. Recent data

indicates a 25% increase in the frequency of floods over the past decade in the Jaffna Peninsula. Further, coastal flooding disrupts communities and infrastructure.

**Saltwater Intrusion:** Saltwater intrusion significantly affects crop yields, with fertile paddy fields lost due to this issue. Additionally, it compromises the quality of drinking water, posing health risks and increasing vulnerability to waterborne diseases.

**Agricultural Loss:** The intrusion into arable lands results in the loss of fertile paddy fields, affecting local food security and the nutritional well-being of communities.

**Resource Scarcity:** Prolonged coastal vulnerability exacerbates resource scarcity, particularly in terms of potable water. The intrusion of saltwater into freshwater sources intensifies the shortage of clean drinking water.

### 3) *Profound Effects*

**Food Insecurity:** Saltwater intrusion disrupts crop yields, leading to local food insecurity and increased dependence on external aid for sustenance. This affects not only the quantity but also the quality of food consumed by the affected population, with implications for their overall nutritional well-being.

**Community Displacement:** Pervasive coastal vulnerability forces communities to contemplate relocation, potentially displacing generations from their ancestral homes, culture, and traditions. This migration disrupts the social fabric of these communities and creates challenges in terms of resettlement, livelihoods, and preserving cultural heritage.

**Economic Vulnerability:** Households reliant on agriculture and fisheries confront economic hardships, affecting their overall well-being and access to essential services such as healthcare and education. Income reductions due to saltwater intrusion and land loss have led to a staggering 30% decrease in annual incomes for affected households.

**Health Risks:** The intrusion of saltwater into freshwater sources poses health risks as it compromises the quality of drinking water, increasing vulnerability to waterborne diseases. This exacerbates the vulnerability of the population, particularly affecting the health and well-being of children, the elderly, and those with pre-existing health conditions.

**Social Disruption:** The pervasive coastal vulnerability in the Jaffna peninsula has triggered profound social

disruption. This social upheaval reverberates through these close-knit communities, disrupting the very fabric of their societies and eroding their cultural heritage. The complex challenges posed by such social disruption call for comprehensive and culturally sensitive responses, recognizing the deeply rooted connections to land and traditions held by these communities. Addressing these social dimensions is paramount in formulating effective strategies for climate resilience in the Jaffna peninsula.

In summary, the case study of the coastal vulnerability in the Jaffna Peninsula underscores the severity and complexity of this issue. Climate change-induced factors, inadequate infrastructure, and a lack of adaptation measures compound the challenges faced by this region. Addressing these issues requires not only environmental measures but also social and economic interventions to safeguard the well-being and livelihoods of the coastal communities in the Jaffna peninsula.

### *B. Analysis of Case Study 2: Landslide Risk in Badulla*

The case study on landslide risk in Badulla illuminates a series of complex issues caused by climate change and human activities that threaten both the environment and the well-being of the local population. The analysis will delve into the core causes, core problems, and profound effects of landslide vulnerability in Badulla.

#### *1) Core Causes*

**Irregular Rainfall:** One of the primary causes of landslides in Badulla is irregular rainfall patterns exacerbated by climate change. These unpredictable weather events, characterized by unprecedented rainfall in recent years, contribute significantly to soil instability. As climate change continues, these irregular weather patterns are likely to persist, further increasing the susceptibility to landslides.

**Deforestation:** Extensive deforestation, primarily driven by agricultural expansion, poses a critical environmental challenge. It has left the region's steep slopes vulnerable to erosion and has compromised soil structure. The removal of trees and vegetation disrupts the natural balance of the environment, making landslides more likely and more severe.

**Urbanization:** The rapid urbanization in Badulla, fueled by population growth and inadequate urban planning, has led to the haphazard construction of buildings and infrastructure on slopes prone to landslides. This reckless

expansion contributes to the increased risk of landslides in urban areas.

**Weak Regulatory Frameworks:** Inadequate regulatory frameworks governing construction and deforestation in vulnerable areas have allowed dangerous development to persist. The absence of robust enforcement and clear land use policies further exacerbates the problem. Legal and policy measures are urgently needed to address this aspect of landslide vulnerability.

**Limited Awareness:** Many communities in Badulla lack awareness of landslide risks, and there are insufficient preparedness measures in place. Educational initiatives and community-based programs are essential to improve awareness and readiness for landslides.

## 2) *Core Problems*

**Community Exposure:** Vulnerable communities living on steep slopes are directly exposed to the heightened risk of landslides. Their proximity to landslide-prone areas puts them in immediate danger, and the lack of resources and infrastructure further amplifies their vulnerability.

**Infrastructure Vulnerability:** The proliferation of infrastructure in landslide-prone areas increases the risk of damage and loss during landslides. Roads, buildings, and public structures are all at risk, disrupting daily life and the overall development of the region.

**Resource Scarcity:** Landslide-affected areas struggle with resource scarcity, particularly in terms of accessing clean water, food, and shelter. The aftermath of landslides can result in a shortage of essential resources, deepening the challenges faced by residents.

## 3) *Profound Effects*

**Infrastructure Loss:** Landslides lead to the loss and damage of infrastructure, including homes, roads, and public buildings. This disrupts daily life, hampers development efforts, and creates significant economic challenges.

**Displacement and Loss of Lives:** Landslide occurrences have directly impacted more than 5,000 families in recent years, leading to displacement, loss of lives, and profound trauma within these communities. The social and economic consequences of such displacement are substantial.

**Health Risks:** Landslides disrupt access to healthcare services, posing significant challenges in responding to

injuries and trauma. The physical and mental health of affected individuals, especially children, the elderly, and those with pre-existing health conditions, is at risk.

**Economic Vulnerability:** Economic instability caused by landslides affects the overall well-being of households, limiting their capacity to access essential services, including education and healthcare. Households have experienced substantial reductions in their annual incomes.

In summary, the case study underscores the urgent need for comprehensive mitigation and preparedness measures to safeguard the communities in Badulla from the looming threat of landslides. Addressing the landslide vulnerability requires a multi-faceted approach involving environmental conservation, urban planning, regulatory reform, education, and support for affected communities.

## C. *Analysis of Case Study 3: Drought in Ampara*

The case study on drought in Ampara reveals the multi-faceted challenges posed by climate change in a region heavily reliant on agriculture. This analysis delves into the core causes, core problems, and profound effects of drought vulnerability in Ampara.

### 1) *Core Causes*

**Shifting Rainfall Patterns:** Climate change has induced unpredictable and shifting rainfall patterns in Ampara. Irregular monsoon seasons and variations in precipitation have led to prolonged dry periods. Climate projections suggest that these shifting patterns will continue, intensifying the vulnerability to drought in the region.

**Deforestation:** Extensive deforestation, often driven by agricultural expansion and urbanization, has disrupted local ecosystems. Trees play a crucial role in retaining moisture in the soil. The reduction of forested areas has diminished the region's natural capacity to store water, exacerbating the impact of drought.

**Agricultural Practices:** Conventional agricultural methods and practices in Ampara are often ill-suited to cope with changing climate conditions. The lack of adaptation measures in farming contributes to the region's vulnerability. The need for sustainable, climate-resilient agricultural practices is evident.

### 2) *Core Problems*

**Crop Failures:** Prolonged droughts result in widespread crop failures in Ampara. The changing rainfall patterns



undermine agricultural stability, leading to significant economic losses and food insecurity among the affected communities. Crop diversification and improved water management are essential strategies to address this problem.

**Agricultural Dependency:** Ampara's heavy reliance on agriculture makes communities particularly susceptible to economic setbacks during droughts. The lack of diversification in livelihoods exacerbates the problem. Encouraging alternative income sources can help mitigate economic hardship.

**Water Shortages:** The decreasing availability of freshwater resources during droughts poses significant challenges, affecting both drinking water access and agricultural irrigation. This can lead to increased competition for limited water resources.

### 3) *Profound Effects*

**Food Insecurity:** Prolonged droughts lead to widespread food insecurity in Ampara, affecting both the availability and affordability of nutritious food for the communities. The provision of food assistance and support for sustainable farming practices can help alleviate this problem.

**Economic Hardship:** Households heavily reliant on agriculture suffer from economic hardship, limiting their overall well-being and access to essential services such as healthcare and education. Diversifying livelihoods and strengthening social safety nets are essential to mitigate these economic challenges.

**Health Risks:** Drought conditions, compounded by water scarcity, elevate health risks, particularly concerning waterborne diseases and healthcare challenges. Improving access to clean water and healthcare services is vital.

**Social Disruption:** The disruption of traditional livelihoods due to drought forces communities in Ampara to seek alternative income sources, altering their way of life. Supporting livelihood diversification initiatives can facilitate a smoother transition and reduce the overall impact of drought.

In summary, the case study on drought in Ampara underscores the critical need for climate-resilient agricultural practices, diversified livelihoods, and improved water resource management. Addressing these aspects can enhance the region's ability to adapt to changing climate conditions, ultimately reducing the vulnerabilities and challenges associated with drought.

## D. *Analysis of Case Study 4: Flood Vulnerability in Colombo*

The case study on flood vulnerability in Colombo provides insights into the intricate relationship between climate change, urbanization, and the recurring issue of urban flooding. The analysis dissects the core causes, problems, and effects of flood vulnerability in Colombo.

### 1) *Core Causes*

**Irregular Weather Patterns:** Colombo's susceptibility to floods is intrinsically linked to climate change-induced irregular weather patterns. These patterns result in intense and unpredictable rainfall, overwhelming existing drainage systems and triggering urban flooding. The irregular weather underscores the urgency of adapting to changing climate conditions.

**Sea-Level Rise:** Rising sea levels, attributed to climate change, significantly contribute to the increasing vulnerability of low-lying areas in Colombo. Higher sea levels worsen the impacts of heavy rainfall by causing coastal flooding and inundation. As sea levels continue to rise, this threat will persist, emphasizing the need for robust mitigation and adaptation strategies.

**Urbanization Pressures:** Rapid urbanization, driven by population growth and inadequate urban planning, has led to the haphazard construction of buildings and infrastructure in flood-prone areas. The urban expansion amplifies the risk of flooding. Effective urban planning and sustainable development practices are imperative to mitigate this risk.

**Inadequate Infrastructure:** The inadequacy of drainage and flood control infrastructure in urban areas further exacerbates the flooding problem. Poorly designed or maintained drainage systems struggle to cope with heavy rainfall. Infrastructure investment and maintenance are crucial for enhancing flood resilience.

**Informal Settlements:** Approximately 45% of Colombo's urban population resides in informal settlements characterized by inadequate housing and infrastructure. These vulnerable populations are highly exposed to floods due to their precarious living conditions. Addressing the needs of these communities is paramount in reducing flood vulnerability.

### 2) *Core Problems*

**Infrastructure Damage:** Recurrent floods result in the damage of critical infrastructure, including homes, roads,

and public buildings, hindering overall development and recovery efforts. Investment in resilient infrastructure is essential for mitigating the impact of floods and facilitating recovery.

**Resource Scarcity:** Flood-affected areas often face resource scarcity, including clean water and shelter, deepening the challenges faced by residents and impeding recovery efforts. Ensuring a steady supply of resources during and after floods is critical.

**Community Vulnerability:** Vulnerable populations residing in informal settlements are particularly susceptible to floods. Limited access to resources and healthcare further amplifies their challenges, emphasizing the need for targeted interventions to protect these communities.

### 3) *Profound Effects*

**Infrastructure Loss:** Flooding results in the loss and damage of critical infrastructure, affecting homes, roads, and public buildings. This hinders overall development and recovery efforts, reinforcing the need for resilient construction and urban planning.

**Health Risks:** Floods disrupt access to healthcare services, exacerbating health risks and hindering responses to injuries and diseases. Improving healthcare access and preparedness is essential for minimizing health-related challenges during and after floods.

**Economic Strain:** The economic upheaval caused by floods affects the overall well-being of households, limiting their capacity to access essential services and education. Supporting economic recovery and livelihoods is pivotal in reducing the economic strain imposed by floods.

**Resource Depletion:** Flood-affected areas suffer from resource scarcity, particularly in terms of clean water, food, and shelter. Enhancing resource management and supply chain resilience is crucial for minimizing the challenges faced by residents.

**Community Disruption:** Pervasive flood vulnerability strains social fabrics, compelling communities to contemplate migration and displacement, potentially leading to the erosion of cultural heritage. Preserving community cohesion during and after floods is essential.

In summary, the case study on flood vulnerability in Colombo underscores the pressing need for comprehensive strategies that encompass urban

planning, infrastructure development, community support, and climate adaptation to effectively address the recurring issue of urban flooding and its far-reaching impacts.

## IV DISCUSSION AND RESULTS

The impact of climate change on human security in Sri Lanka, particularly in the context of SIDS, is contingent upon their exposure, vulnerability, and coping capacity in the face of these environmental stressors (IPCC, 2019).

Exposure, in the context of SIDS like Sri Lanka, pertains to the physical presence of populations, infrastructure, and other critical assets within regions susceptible to climate-related stressors and shocks, including but not limited to sea-level rise, tropical cyclones, and coastal erosion (IPCC, 2019).

Vulnerability, which is particularly acute in island states, reflects the inclination of these exposed elements, such as communities, infrastructure, and other essential assets, to suffer adverse consequences due to climate change hazards. The inherent factors of small landmass, limited resources, and geographic isolation render island states highly vulnerable to climate change impacts. These encompass elevated risks of flooding, land erosion, and disruptions to vital services and livelihoods (UNEP, 2019).

Coping capacity, an integral facet of vulnerability, signifies the capacity of island states and their populace to effectively manage the repercussions of climate change. This encompasses various determinants, including institutional capabilities, financial resources, access to technology, and the presence of robust social and community networks. These factors collectively empower the adoption of adaptive strategies and the fortification of resilience against climate-induced challenges (IPCC, 2019).

Furthermore, climate change impacts manifest in various ways, particularly in SIDS like Sri Lanka situated in the Indian Ocean region. These impacts can be categorized into sudden onset stressors/shocks and slow onset stressors, each posing distinct challenges.

**Sudden Onset Stressors/Shocks:** These are conspicuous, immediate events that include extreme weather phenomena like cyclones, floods, and droughts. These events have the potential to inflict extensive damage on property, infrastructure, and livelihoods, often resulting in the displacement of communities.

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**Slow Onset Stressors:** In contrast, slow onset stressors are less overt and exert a gradual influence. They encompass phenomena such as rising sea levels, Ocean acidification, and shifting precipitation patterns. These phenomena incrementally affect the ability of communities to access fundamental resources like food and water.

Understanding the different types of climate change impacts, both sudden onset and slow onset, are crucial for SIDS in developing effective adaptation and mitigation strategies. By addressing both immediate and long-term challenges, island states can enhance their resilience and well-being in the face of these evolving environmental conditions (IPCC, 2022; UNEP, 2020).

To provide a more comprehensive understanding, it's essential to consider various factors that amplify vulnerability to climate change impacts in Sri Lanka and similar island nations in the Indian Ocean region.

**Geographic Location:** Proximity to climate change impacts significantly influences vulnerability. Coastal and low-lying areas are particularly exposed due to their susceptibility to rising sea levels and extreme weather events (World Bank, 2022).

**Socioeconomic Status:** Individuals and communities grappling with poverty and marginalization confront heightened vulnerability. Limited resources hinder their capacity to cope with the multifaceted effects of climate change (UNDP, 2022).

**Gender:** Gender dynamics play a pivotal role, with women and girls facing elevated vulnerability. They often bear the responsibility for securing water and food, tasks that become more challenging in the face of climate change (United Nations Women, 2022).

**Age:** Vulnerability is also associated with age. Both older individuals and children exhibit increased susceptibility to climate change impacts due to their diminished resilience (World Health Organization, 2022).

**Disability:** Persons with disabilities confront augmented vulnerability as they may encounter difficulties accessing essential resources and evacuating during climatic disasters (Disability Rights International, 2022).

**Education:** Education serves as a critical determinant of coping capacity. Those with higher levels of education tend to be more equipped to navigate climate risks and employ mitigation strategies (UNESCO, 2022).

**Access to Resources:** The availability of essential resources, such as food, water, and shelter, significantly influences an individual's or community's ability to withstand climate change impacts (Food and Agriculture Organization of the United Nations, 2022).

The study scrutinizes the multifaceted impacts of climate change on human security in Sri Lanka, with a special focus on SIDS. Human security encompasses various dimensions, including health, economic, political, food, environmental, personal, and community security, all of which are significantly influenced by climate change (UNDP, 2020).

**Health Security:** In Sri Lanka, climate change poses considerable threats to health security, particularly regarding water quality and sanitation. Rising temperatures and altered precipitation patterns exacerbated water scarcity issues, impacting around 11.7 percent of the Sri Lankan population with limited access to improved water sources. This elevates the risk of waterborne diseases, with vulnerable communities, especially children, facing substantial health challenges (OHCHR & WFP, 2022).

**Economic Security:** Economic security in Sri Lanka is intimately linked to employment opportunities and income stability. Climate change-induced events such as extreme weather events and sea-level rise disrupted livelihoods, posing severe economic challenges (Central Bank of Sri Lanka, 2020). This is especially concerning in areas with existing poverty and income inequality issues, predominantly rural areas (World Bank, 2020).

**Political Security:** Political stability and protection of human rights are pivotal aspects of political security. Climate change exacerbated political tensions, as resource scarcity and displacement due to environmental factors may trigger conflicts. Sri Lanka has previously experienced political unrest and ethnic tensions, underscoring the fragile nature of political security (UNDP, 2020).

**Food Security:** Climate change-induced shifts in precipitation and temperature patterns can substantially affect crop yields and food production in Sri Lanka. Ensuring access to nutritious food for all individuals becomes increasingly challenging with around 17% of the Sri Lankan population already experiencing moderate to severe food insecurity (WFP, 2022).

**Environmental Security:** Sri Lanka's environmental security is under duress due to climate change. The nation faces a slew of environmental challenges including deforestation, land degradation, and pollution. Sri Lanka

witnessed the loss of approximately 29% of its forest cover between 1990 and 2020, resulting in dire ecological consequences (Global Forest Watch, 2020).

**Personal Security:** In the context of climate change, Sri Lanka faces specific challenges related to personal security. The implications of climate change exacerbated these existing personal security challenges. Climate-induced events, such as extreme weather events and environmental degradation, can disrupt livelihoods and communities. Displacement resulting from climate-related disasters can lead to overcrowded living conditions and heightened tensions, potentially increasing the risk of domestic violence and conflicts within communities.

One notable concern is the prevalence of domestic violence, crime, and child abuse in the country. The Sri Lanka Police Department recorded a significant number of cases in 2020, with 22,941 reported incidents of domestic violence alone (Sri Lanka Police, 2021). This alarming statistic underscores the urgency of addressing these issues within the framework of personal security.

**Community Security:** Fostering social cohesion and preventing intercommunal conflicts is pivotal for community security in Sri Lanka. The nation has a history of tensions between different ethnic and religious groups. Climate change-induced resource scarcity and displacement can further exacerbate these issues (UNDP, 2020). Therefore, initiatives aimed at promoting dialogue, reconciliation, and respect for diversity are essential for building resilient and inclusive communities.

In the context of climate change, these dimensions of human security are profoundly interconnected, underscoring the necessity of a comprehensive approach to address the evolving challenges faced by Sri Lanka, particularly for SIDSs in IOR.

## V RECOMMENDATIONS

### A. *Recommendations for Sri Lanka*

Sri Lanka should prioritize the development and implementation of robust adaptation measures to address the specific climate change impacts it faces. Raise awareness about climate change impacts and adaptation strategies among coastal communities. Education and training programs can help communities understand the risks and adopt resilient practices.

Sri Lanka should promote climate-resilient agricultural practices in vulnerable regions like Jaffna.

This includes introducing salt-tolerant crop varieties and efficient water management techniques.

Sri Lanka should invest in resilient infrastructure, especially in coastal areas. This includes constructing flood-resistant buildings and improving drainage systems to reduce the impact of inundation.

Sri Lanka should empower local communities to be part of the solution. Encourage the formation of community-based organizations to manage resources sustainably and implement climate adaptation strategies.

Sri Lanka should develop and maintain early warning systems for extreme weather events, including storm surges and heavy rainfall. Ensure that these systems are accessible and understandable to the local population.

Sri Lanka should implement integrated coastal management strategies in vulnerable regions like Jaffna. This includes shoreline protection, mangrove restoration, and sustainable land use planning to reduce the impacts of saltwater intrusion and inundation.

### B. *Recommendations for SIDS in the Indian Ocean Region*

Foster regional collaboration among SIDS in the Indian Ocean Region to share knowledge, resources, and best practices for climate adaptation. Collaborative efforts can enhance the resilience of all member states.

Establish a regional network for climate data collection and sharing. Accurate and timely data is crucial for understanding climate change impacts and formulating effective adaptation strategies.

Invest in capacity-building programs for SIDS to enhance their ability to assess vulnerabilities, formulate adaptation plans, and implement climate-resilient projects.

Promote ecosystem-based adaptation approaches, such as mangrove restoration and coral reef protection. These natural barriers can help mitigate the impacts of rising sea levels and storms.

Support the development of climate-resilient infrastructure in SIDS, especially in vulnerable coastal areas. This includes building resilient roads, buildings, and energy systems.

Strengthen disaster preparedness and response mechanisms. SIDS should have well-defined plans in

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place for responding to climate-related disasters, including evacuations and relief efforts.

Involve civil society organizations, local communities, and indigenous knowledge in the development and implementation of climate adaptation initiatives. Their insights and participation are invaluable.

## VI CONCLUSION

In conclusion, this study highlights the intricate relationship between climate change and human security, particularly in the context of Sri Lanka and other SIDS in the Indian Ocean region. The findings underscore the urgent need for comprehensive and integrated approaches to address the multifaceted impacts of climate change on vulnerable communities.

In implementing these recommendations, it is crucial to strengthen institutional capacity, enhance data collection and knowledge sharing, and prioritize the most vulnerable populations, including women, children, and marginalized groups. A comprehensive and inclusive approach that considers the interconnectedness of the different dimensions of human security is key to sustaining peace and promoting climate resilience.

## REFERENCES

1. Adelphi. (2019). Climate Fragility Risk Brief: Lake Chad Basin. Retrieved from [https://www.adelphi.de/en/system/files/mediathek/bilder/adelphi\\_climate\\_fragility\\_risk\\_brief\\_lake\\_chad\\_basin.pdf](https://www.adelphi.de/en/system/files/mediathek/bilder/adelphi_climate_fragility_risk_brief_lake_chad_basin.pdf)
2. Central Bank of Sri Lanka. (2020). Annual Report 2019. Retrieved from [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/publications/annual\\_report/2019/e\\_ar\\_2019.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/publications/annual_report/2019/e_ar_2019.pdf)
3. Dissanayake, D. M. S., Hettiarachchi, S., & Ratnayake, R. M. S. (2021). Impacts of Climate Change on the Coastal Zone of Sri Lanka. Proceedings of the Institution of Civil Engineers - Maritime Engineering, 174(1), 3-14.
4. Fernando, S., et al. (2018). Impacts of Extreme Weather Events on Vulnerable Coastal Communities in Sri Lanka. Journal of Climate Change, 2(1), 45-60.
5. Germanwatch. (2021). Climate Risk Index 2021. Retrieved from [https://www.germanwatch.org/sites/germanwatch.org/files/20-201e%20Global%20Climate%20Risk%20Index%202021\\_14.pdf](https://www.germanwatch.org/sites/germanwatch.org/files/20-201e%20Global%20Climate%20Risk%20Index%202021_14.pdf)
6. Global Forest Watch. (2020). Sri Lanka: Deforestation Rates. Retrieved from <https://www.globalforestwatch.org/dashboards/country/LKA>
7. Gunawardena, I., et al. (2020). Climate Change Impacts on Agriculture and Food Security in Sri Lanka: A Review. International Journal of Climate Change Strategies and Management, 12(4), 577-594.
8. IPCC. (2019). Special Report on the Ocean and Cryosphere in a Changing Climate. Intergovernmental Panel on Climate Change.
9. IPCC. (2022). IPCC AR6 Synthesis Report: Climate Change 2022. Intergovernmental Panel on Climate Change.
10. Ministry of Mahaweli Development and Environment. (2016). Climate Change Adaptation Plan for Sri Lanka. Colombo, Sri Lanka: Ministry of Mahaweli Development and Environment.
11. National Disaster Management Centre. (2020). Annual Performance Report 2019. Retrieved from <http://www.ndmc.gov.lk/srilankanew/wp-content/uploads/2020/10/APR-2019-Final.pdf>
12. OECD. (2018). States of Fragility 2018. Retrieved from <https://www.oecd-ilibrary.org/sites/9789264302075-en/index.html?itemId=/content/publication/9789264302075-en>
13. OECD. (2020). OECD Fragility Framework. Retrieved from <https://www.oecd.org/dac/conflict-fragility-resilience/oecd-fragility-framework.htm>
14. OECD. (2020). Salinization. OECD Glossary of Statistical Terms. Retrieved from <https://stats.oecd.org/glossary/detail.asp?ID=2392>
15. Smith, J., et al. (2019). Rising Sea Levels and Coastal Erosion: Impacts on Small Island States in the Indian Ocean Region. Environmental Research Letters, 14(8), 085003.

16. Smith, M., Jones, R., & Brown, D. (2019). Impacts of Climate Change on Small Island States. *Wiley Interdisciplinary Reviews: Climate Change*, 10(2), e569. <https://doi.org/10.1002/wcc.569>
17. Sri Lanka Police. (2021). Annual Performance Report 2020. Retrieved from [http://www.police.lk/images/pdf/Annual\\_Report/Annual\\_Performance\\_Report\\_2020.pdf](http://www.police.lk/images/pdf/Annual_Report/Annual_Performance_Report_2020.pdf)
18. UNEP. (2019). Global Environment Outlook: Summary for Policy Makers. United Nations Environment Programme.
19. UNEP. (2020). Climate Change and Human Security: A Review of the Literature. Nairobi, Kenya: United Nations Environment Programme.
20. UNEP. (2020). Global Linkages: A Graphic Look at the Changing Arctic. United Nations Environment Programme.
21. United Nations Security Council. (2016). S/Res/2282. Retrieved from [https://undocs.org/S/RES/2282\(2016\)](https://undocs.org/S/RES/2282(2016))
22. World Bank. (2020). Poverty and Shared Prosperity 2020: Reversals of Fortune. Retrieved from <https://openknowledge.worldbank.org/bitstream/handle/10986/34496/9781464816028.pdf>
23. World Bank. (2020). Sri Lanka - Climate Change and Disaster Risk Reduction Program for Resilience. Retrieved from <https://www.worldbank.org/en/news/press-release/2020/06/18/sri-lanka-world-bank-supports-implementation-of-climate-change-and-disaster-risk-reduction-program-for-resilience>
24. World Food Programme. (2021). Sri Lanka Country Brief. Retrieved from <https://www.wfp.org/countries/sri-lanka>
25. World Health Organization. (2018). Sri Lanka Country Cooperation Strategy 2018-2022. Retrieved from
26. [https://apps.who.int/iris/bitstream/handle/10665/272967/ccsbrief\\_lka\\_en.pdf](https://apps.who.int/iris/bitstream/handle/10665/272967/ccsbrief_lka_en.pdf)
27. Achala, T. D., et al. (2020). Green Climate Fund and its prospects in Sri Lanka: An assessment. *Sustainability*, 12(17), 7094.
28. Amaratunga, K. S. P., et al. (2017). Evaluation of vulnerability and adaptation to climate change in urban coastal centres: A case study from Colombo, Sri Lanka. *Natural Hazards*, 87(3), 1587-1609.
29. Banneheka, S., et al. (2016). Farmers' perception on climate change and factors affecting adaptation: A study in the dry zone of Sri Lanka. *Environmental Economics*, 7(4), 61-66.
30. Fernando, K., et al. (2019). Community-based adaptation to climate change in Sri Lanka: Lessons from the 'Giribawa' project. *Climate and Development*, 11(4), 295-304.
31. Gunawardena, K. R., et al. (2014). Gendered vulnerability to climate change in Sri Lanka: Learning from the 2004 tsunami recovery. *Climate and Development*, 6(3), 216-227.
32. Hettiarachchi, M., et al. (2016). Assessment of adaptive capacity and livelihood diversification of farming communities in Sri Lanka to climate variability and change. *Environmental Management and Sustainable Development*, 5(1), 93-107.
33. Iqbal, M. M., et al. (2017). The socio-economic impact of climate change on the small-scale fisheries sector in Sri Lanka: A review. *Marine Policy*, 82, 32-38.
34. Jayasuriya, S., et al. (2015). Urbanization and climate change: Exploring the intersections in Colombo, Sri Lanka. *Urban Climate*, 14(4), 340-357.
35. Kumara, K. A. R., et al. (2015). Vulnerability of coastal fisheries and livelihoods to climate variability and change: A case study from a natural disaster-prone coastal area of Sri Lanka. *Fisheries Research*, 161, 100-108.
36. Marambe, B., et al. (2019). Community-based adaptation to climate change in the agricultural sector in Sri Lanka: Lessons from two case studies. *Climate and Development*, 11(5), 448-462.

37. Nandasena, L., et al. (2018). Climate variability and extreme weather events in Sri Lanka: Recent changes, impacts, and implications for agriculture. *Climate and Development*, 10(3), 279-292.
38. Nandasena, L., et al. (2019). Projected climate change impacts on agriculture in Sri Lanka: A Ricardian analysis. *Journal of Environmental Management*, 234, 1-11.
39. Sivakumar, M. V. K. (2015). Climate change and food security in Sri Lanka: Adaptation and mitigation strategies. *Wiley Interdisciplinary Reviews: Climate Change*, 6(5), 535-556.
40. Sundaresan, J., et al. (2017). A comparative analysis of disaster governance in India and Sri Lanka: The role of civil society. *International Journal of Disaster Risk Reduction*, 24, 215-225.
41. Wickramarachchi, S. A., et al. (2018). Foreign aid and climate change adaptation: Evidence from Sri Lanka. *Sustainability*, 10(11), 4147-4172.
42. United Nations General Assembly. (2009). Sixty-fourth session of an agenda related to climate change and its possible security implications. A/64/350). United Nations.
43. Gopalakrishnan, T. and Kumar, L., 2021. Linking long-term changes in soil salinity to paddy land abandonment in Jaffna Peninsula, Sri Lanka. *Agriculture*, 11(3), p.211.
44. United Nations Security Council. (2009). Mandate of United Nations Assistance Mission in Somalia, (2527/2020). United Nations.
45. McGray, H., 2014. Clarifying the UNFCCC national adaptation plan process. World Resources Institute.
46. United Nations Development Programme (UNDP). (1994). Human Development Report.
47. United Nations Development Programme (UNDP). (2019). Adelphi Report.
48. Mendis, V.L., 1992. National security concepts of states: Sri Lanka. UNIDIR United Nations Institute for Disarmament Research Geneva.
49. Streck, C., Keenlyside, P. and Von Unger, M., 2016. The Paris Agreement: a new beginning. *Journal for European Environmental & Planning Law*, 13(1), pp.3-29.
50. Adger, W. N., Arnell, N. W., & Tompkins, E. L. (2005). Successful adaptation to climate change across scales. *Global Environmental Change*, 15(2), 77-86.
51. Homer-Dixon, T. F. (1999). *Environment, Scarcity, and Violence*. Princeton University Press.
52. OECD. (2018). *States of Fragility 2018*. OECD Publishing.
53. OECD. (2020). *States of Fragility 2020*. OECD Publishing.
54. United Nations and World Bank. (2018). *Pathways for Peace: Inclusive Approaches to Preventing Violent Conflict*. World Bank Group.
55. United Nations. (1945). Charter of the United Nations. <https://www.un.org/en/about-us/un-charter>
56. United Nations Framework Convention on Climate Change. (1992). United Nations Framework Convention on Climate Change. <https://unfccc.int/resource/docs/convkp/conven g.pdf>
57. Intergovernmental Panel on Climate Change. (2022). *Climate change 2022: Impacts, adaptation and vulnerability*. Geneva, Switzerland: Author.
58. United Nations Development Programme. (2022). *Gender, climate change and disaster risk reduction: A synthesis of evidence from the Indian Ocean region*. New York, NY: Author.
59. United Nations Framework Convention on Climate Change. (2022). *The Paris Agreement: A guide for policymakers*. Geneva, Switzerland.
60. United Nations Office for Disaster Risk Reduction. (2022). *Global assessment report on disaster risk reduction 2022*. Geneva, Switzerland: Author.

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61. World Meteorological Organization. (2022). State of the climate in 2021. Geneva, Switzerland: Author.
62. IPCC. (2019). IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. Retrieved from <https://www.ipcc.ch/srocc/>
63. UNEP. (2019). Global Linkages - A graphic look at the changing Arctic. United Nations Environment Programme. Retrieved from
64. <https://www.unep.org/resources/publication/global-linkages-graphic-look-changing-arctic>
65. World Health Organization. (2022). Climate change and health: A guide for policymakers. Geneva, Switzerland: Author.
66. Food and Agriculture Organization of the United Nations. (2022). The state of food security and nutrition in the world 2022. Rome, Italy: Author.
67. ADB. (2020). Sri Lanka: Climate Risk and Vulnerability Assessment. Asian Development Bank.
68. Fernando, N., et al. (2021). Climate Change, Water Scarcity, and Agricultural Adaptation in Sri Lanka: A Review. *Sustainability*, 13(7), 3611.
69. Hapuarachchi, H. A. P., et al. (2017). Assessing Vulnerability of Coastal Communities to Climate Change: A Case Study from Sri Lanka. *Sustainability*, 9(10), 1898.
70. Jayatilleke, A. U., et al. (2019). Community-Based Adaptation to Climate Change: Lessons from Sri Lanka. *Sustainability*, 11(10), 2785.
71. Munasinghe, D., et al. (2019). Climate Change and Extreme Weather Events: Impacts on Agriculture in Sri Lanka. *Climate*, 7(3), 34.
72. UNDP Sri Lanka. (2020). Climate Change and Human Development in Sri Lanka: Challenges, Priorities, and Opportunities. UNDP Sri Lanka.
73. WHO Sri Lanka. (2019). Climate Change and Health: A Country Profile 2015. World Health Organization.
74. World Bank. (2021). Sri Lanka: Climate Change and Development Policy Operations. World Bank.
75. World Bank. (2022). Climate change adaptation: A guide for development practitioners. Washington, DC:
76. United Nations Development Programme. (2022). Gender, climate change and disaster risk reduction: A synthesis of evidence from the Indian Ocean region. New York, NY:
77. United Nations Women. (2022). Gender and climate change: A toolkit for action. New York, NY:
78. World Health Organization. (2022). Climate change and health: A guide for policymakers. Geneva, Switzerland:
79. Disability Rights International. (2022). Disability and climate change: A call to action. Washington, DC:
80. UNESCO. (2022). Education for climate action: A guide for policy-makers. Paris, France: Author.
81. Food and Agriculture Organization of the United Nations. (2022). Climate change, agriculture and food security: A handbook for policy-makers. Rome, Italy:
82. The Island. (2013). Navy claims no destruction of coastal ecosystems by their ammunition dump. <https://www.island.lk/navy-claims-no-destruction-of-coastal-ecosystems-by-their-ammunition-dump/>
83. The Island. (2015). 35,000 acres of forest destroyed by security forces. <https://www.island.lk/35-000-acres-of-forest-destroyed-by-security-forces/>
84. UNDP Sri Lanka. (2020). National Human Development Report 2020: Forging Unity. Colombo, Sri Lanka: United Nations Development Programme.
85. OHCHR & WFP. (2022). Food Security Crisis in Sri Lanka: A Rapid Assessment. Retrieved from [https://srilanka.un.org/sites/default/files/2022-06/LKA\\_HNP\\_FoodSecurityCrisis\\_20220609\\_0.pdf](https://srilanka.un.org/sites/default/files/2022-06/LKA_HNP_FoodSecurityCrisis_20220609_0.pdf)
86. Lakshika, P., Sandaruwan, R.A., Ranjith, P.H., Ratnayake, N.P., Jinadasa, K., Nimila, D., Shanaka,



87. W. and Panchala, W.W., 2020. Sea-level inundation and risk assessment along the south and southwest coasts of Sri Lanka. *Geoenvironmental Disasters*, 7(1).

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# A comparative analysis of Clausewitz and Liddle Hart's Military Theories and their applicability in modern warfare

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**Abstract:** *The celebrated idea of Prussian war strategist Clausewitz regarding conventional warfare played a dominant role up to the First World War in the West. In his seminal work "On War", Clausewitz posits "If you want to overcome your enemy, you must match your efforts against the power of resistance". In a way, his idea was akin to annihilating the enemy's army in major battles. However, this idea was challenged by British military strategist Captain Basil Liddle Hart in his book titled "The Strategy" by proposing a different military theory called "Indirect Approach". The objective of this paper is based on making a comparative analysis between Clausewitz and Liddle Hart regarding the utility of their military theories in modern warfare. While taking a methodology based on a comparative analysis of the utility of the two doctrines, this paper explores the effectiveness of those military strategies against the current asymmetries in modern warfare. In order to buttress the reliability of this research, the examples from the Ukrainian war and the Sri Lankan war between 1990-2009 will be examined. The main objectivity of this paper lies in creating a novel discussion on the merits and demerits of Clausewitz and Captain Basil Liddle Hart's theories of war in contemporary warfare. The results emerging from this research will demonstrate the relevance of re-reading both Clausewitz and Liddle Hart in an era, where the orthodox idea of warfare is at stake.*

**Key Words:** *Strategy, Military, War, Sri Lanka, Ukraine*

## I. INTRODUCTION

The dominant refrain of the present age is that we are in the 'post-Cold War era'. Beyond that, we are not sure. We may be living amidst the triumph of liberal capitalist democracy and the end of history, a period of civilizational conflict, or – as the current worldwide turbulence would encourage us to conclude – the age of terrorism or AI. Whatever we choose to believe, we tend to think of the Cold War as a unique event, now the memory of a bygone age. However, the catastrophic events that took place last year with Russia's invasion of Ukraine suddenly ended the slumber of those who dwelled on the romanticizing vision of liberalism and

Cold War nostalgia. Russian invasion of Ukraine did sabotage Fukuyama's thesis along with Huntington, who assumed that a military conflict between Russia and Ukraine is an impossibility by virtue of their shared Orthodox values. (Huntington, 89) Given such a turbulent time, the importance of tracing military strategies comes to the fore. It is in this context; that this paper intends to make a comparative analysis between the strategic moves of two great military thinkers of human history. It is by no means an exaggeration to state that the military doctrines propounded by Clausewitz and Captain Liddle Hart are antithetical to each other as their philosophical approaches to the battlefield took different bents. Thus, any attempt to compare both of them in light of modern warfare can become a complexity, yet this study determines to take a nuanced approach in revising Clausewitz and Liddle Hart.

The celebrated idea of conventional warfare of Clausewitz arose in a time when European powers engaged in complex geopolitical encounters in search of a hegemony and it should be understood under thread of European history of the 19<sup>th</sup> century. Wherein, Captain Basil Liddle Hart emerged as a champion of a different military theory called "Indirect Approach" in an era, where conventional warfare failed in achieving the objectivity of war. The military failures that Liddle Hart witnessed as a captain of the Yorkshire light infantry regiment in the Western front or in the battle of Somme compelled him to look for an alternative military theory to intensify favourable military outcomes. It appears to be evident, that both military strategists have moulded their theories parallel to the historical incidents, which contained an empirical basis.

Based on a comparative analysis of both Clausewitz and Captain Basil Liddle Hart, this paper explores the validity of their theories of modern warfare. The certainty of challenges that encompassed modern warfare ranging from military asymmetries to the development of AI are obvious issues that may refute

the theories of Clausewitz and Liddle Hart, but the task of this paper remains twofold. First, it examines the differences between two military doctrines separately while astutely examining their applicability in the modern battlefield. In doing this task, this study looks into the Sri Lankan War (1983-2009), which was by all means an unconventional war within a state and Russia-Ukraine military conflict. Secondly, this paper will assess how both military doctrines can become effective regardless of their orthodoxy in 21st-century warfare.

## II . ANALYSIS FROM "ON WAR"

Carl von Clausewitz stands in a prominent position in the small pantheon of Western military theorists as his magnum opus "*Vom Kriege*" stands as a monumental work containing remarkable ideas, which are even useful for modern warfare in the 21<sup>st</sup> century. Prussian General Clausewitz completed his celebrated thesis in accordance with the contemporary needs of the European giants. In fact, Clausewitz' own state Prussia was sandwiched between the Austro-Hungarian empire and France by making a hostile environment for Prussian existence, which fervently impacted Clausewitz's understanding of war as the continuity of politics by other means. Nonetheless, today Clausewitz is often quoted than read, more venerated than understood. (Shepherd, 1991).

First-time readers of Clausewitz certainly find his style obtuse and confusing as it fills with more philosophical aphorisms than providing more astute analysis of a military theory. For instance, in the opening chapter of 'On War', Clausewitz describes war as nothing but a duel on a larger scale, an act of force to compel the enemy to do our will or else he reiterates his most popular dictum "War is a continuation of politics by other means". (Kennedy, 1988) Despite the aphorism filled with his text that tries to describe war as a dialect, one needs to understand Clausewitz as a military thinker rather than a soldier. The objective of writing his thesis 'On War' was rooted in capturing the observation that are universal to all wars regardless of the geopolitical locations. After having studied the Napoleonic wars in his time, in which he himself served as a General, he uses a dialectical method of reasoning in exploring the nature of war. Perhaps, this usage of the dialectical method of critical examination by using a dialogue of contrary views seemed to have risen from the 19th-century German philosophical tradition, which frequently dealt with the dialect. (McNeil, 1982)

In his explanation of war, Clausewitz describes war as a social phenomenon that is aimed at imposing

one's will on one's opponent through the use of force. Based on his state-centric interpretation, written in an era, where European powers were interested in consolidating the state power, Clausewitz acknowledged the fact that war can embody different ends depending on the actors, purpose and even means available at the time. He further understands man's inherent thirst for war as a part of human existence which can only be resolved through bloodshed. In continuing his lengthy analysis of war, Clausewitz describes war as a riddle which constitutes no logical limit to its application of force. Each side will compel its opponents to follow suit: A reciprocal action that must lead, in theory to extremes. (Clausewitz, 76)

The paradoxical Trinity is the phase initiated by Clausewitz in describing the three main pillars of the war: the government, the army and the people. The first factor to be constrained is the government Clausewitz emphasizes the central role politics plays in war, he posits that war is not an end unto itself, but rather a tool in realizing the political objectives. Although he was a trained military general, Clausewitz was not a military exclusivist to rely only on military solutions as he regarded war as the last resort. The second pillar in his trinity is the people and Clausewitz believed that people should be zealous in war efforts for its successful need. He states "passions that are to blaze up in war must already be inherent in the people as war is not an action of living force upon a lifeless mass but always the collision of two living forces". (Clausewitz, p.18). He understood the risk that awaited the people in war and duly explained the only way to reduce the human casualties on the war front was based on mutual coordination among the states, that distinguished civilized forms of warfare from savages. The third and final factor that Clausewitz highlighted was the army and he states "The political object is the goal, war is the means of reaching it, and means can never be considered in isolation of their purpose" (Clausewitz, p. 25). All in all, Clausewitz's paradoxical trinity comprised of the tendencies of the government, people and armies, in which the effects and contrasts among them produce outcomes which are difficult to predict.

The major military philosophy that Clausewitz developed was a combination of many distinct engagements, which consisted of defensive principles he emulated from Napoleon and Frederick the Great. The cardinal approach he developed in his strategic thinking in war essentially focused on the directness of the troops and launching attacks on the enemy from the front and the flanks. Clausewitz states

"A fundamental principle is never to remain completely passive, but to attack the enemy frontally and from the flanks, even while he is attacking us. We should, therefore defend ourselves on a given front merely to induce the enemy to deploy his forces in an attack on the front" (Clausewitz, p.45)

It should be borne in mind that the geopolitical trajectories that encompassed Clausewitz's military upbringing decisively shaped his military philosophy in favour of major battles. He was truly fascinated with the Napoleonic way of overthrowing the enemy-to render him politically helpless and militarily impotent, thus forcing him to sign whatever the conditions that Napoleon determined. Also, Clausewitz was an admirer of the subtle military techniques used by Frederick the Great of Prussia. Frederick the Great often looked for an alternative objective in occupying the territories that would enable them to annex them or use them in a fair deal. These two characters more or less inspired Clausewitz in constructing his strategic approach on the battlefield based on the launching of massive attacks. (Langston, 1963) He proposed that the goal of any solid army was to annihilate the enemy completely. He states

"We must pursue this goal with the greatest energy and with the last ounce of our strength" ( Clausewitz, p.56)

His faith in major battles in warfare can be further seen in his analysis of the strategic principles for the offence which illustrates his stances in the offensive lines of war. He states

'We must select for our attacks one point of the enemy's position and attack it with great superiority'

Clausewitz was more conventional in using the infantry forces on the battlefield with greater confidence, which may have derived from his admiration of the French legion. Regarding the consistency of the use of force, he states

"Even though we are strong, we should still direct our main attack against one point only. In that way we shall gain more strength at this point. For to surround an army completely is possible only in rare cases and requires tremendous physical or moral superiority". (Clausewitz, pp.67)

Notwithstanding the grandeur held by Clausewitz in the field of military theory, his strategies reached the ebb in the Great War by virtue of their operational failures at the ground level. Amidst the

Franco-Russian alliance, Germany opted for Clausewitz's admonition of attaining a quick victory against the foe, which was carried under General Moltke who desired to capture the French capital. In fact, this was a detrimental move made by the Germans as their intensity on the battlefield finally exhausted them by paving the path to complete military annihilation. (Liddle Hart, 1939) Although Clausewitz had seen greater European wars in his lifetime, he was not aware of what awaited him in the following century. The First World War made unprecedented demands upon the people of the warring nations both on the battlefield and the home front which were not possible to be addressed by the Clausewitzian approach. (Keegan, 2003)

### III. LIDDLE HART'S BIG IDEA

Captain Basil Liddle Hart entered the annals of military history with his most celebrated idea called the "Indirect Approach", but it is important to observe that his military doctrine arose as an answer for the catastrophic military failures of the Great War. In particular, Liddle Hart understood extensive misreading of Clausewitz and adherence to large-scale battles caused the havoc in the war machinery of both allies and the central forces in the First World War. Captain Liddle Hart witnessed the brutality of major war failures on the Western Front by deploying more soldiers which led the troops to slaughter. Liddle Hart described this as a result that stemmed from Clausewitz's emphasis on the great superiority of warfare, who held that "Only a great battle can produce a major decision". (Lewin, 1971)

Inspired by Chinese strategist Sun Tzu, Liddle Hart developed a new military theory in the 1920's. He realized how political dimensions, sea power, aircraft and public uprising altered the face of war, which fundamentally distinguished from how Clausewitz viewed warfare. In his seminal work entitled "Strategy", Liddle Hart analyses the war as a concept from the ancient time to the Great War and he juxtaposes himself against Clausewitz in the way he interprets the strategy. In his criticism of Clausewitz, Liddle Hart states that the old Prussian General looked at war from a parochial perspective, which unnecessarily stressed the importance of engaging the enemy as the only means to achieve a strategic end. On the contrary, Liddle Hart describes strategy as " The art of disturbing and applying military means to fulfil the ends of policy" (Liddle Hart, 1967,335)

The indirect approach remains the monumental contribution made by Basil Liddle Hart to the military

theory. It appears, Liddle Hart coined this indirect approach after a careful examination of the history, in which he realized that war are won when the means of war are applied in a manner that an opponent is unprepared to meet, that is, employed in an indirect fashion. He looked at how Hannibal marched across the Alps to strike Rome as a palpable example from history manifesting the indirect approach. In his theory of "Indirect Approach", strategy does not need to overcome resistance, but rather exploit the elements of movements and astonish to achieve victory by throwing the enemy off balance before a potential strike. He states

"Direct attacks against an enemy firmly in position almost never works and should never be attempted" (Liddle Hart, 89)

This was a statement that came from him through a set of historical illustrations he presented, where attacks on formidable targets ended in unmitigated military disasters. He uses the word "Dislocation" as a keyword of the indirect approach as dislocating the enemy stands more paramount than seeking an instant victory. The subsequent results arising from dislocating the enemy open greater opportunities for military generals to exploit the chances. He discusses the chances that any military leader can accomplish in discussing his second principle of the indirect approach.

"To defeat an enemy, a commander must first upset his enemy's equilibrium; which is not accomplished by the main attack, but instead must be realized before the main attack can succeed"

Unlike Clausewitz, who was fascinated with major battles and massive attacks, Liddle Hart never endorsed direct success in war. He explained that a commander should never employ a rigid strategy revolving around powerful direct attacks or fixed defensive positions. The Infantry was his favourite mode of war, which needed to be buttressed by the combined air and artillery forces and it was obvious that this mechanism generated the German military doctrine "*Blitzkrieg*" in the Second World War against British, French and Soviet troops. However, he was mindful of the political apparatus in achieving the military objectives. (Waltz, 1959 Liddle Hart believed if wars are waged to attain political objectives, then those objectives should not be beyond the accessible military means to achieve them. Generally, the task of war is what he calls a better state of peace, or the realization of

a policy of goal that makes peaceful existence better for at least one of the combatants. He argues that military victory does not spontaneously ensure attaining the object unless it is aligned with the political object.

#### IV. SHADOWS OF CLAUSEWITZ AND LIDDLE HART IN MODERN WARFARE

21st-century warfare is an enterprise epitomizing the changing dimensions of war blended with the use of modern technology, which is entirely different from the orthodox continental warfare during the time of Clausewitz. Nonetheless, the roots of the very genesis of war which emanates from the human mind remain consistent throughout the ages regardless of the influx of technology. Warlike element is such a timeless concept that Clausewitz elaborated in "*On War*", which highlights Man's inherent enthusiasm for fighting driven by 19th-century German romanticism over the battlefield. (Aron, 1983) The spirit that Clausewitz revered is visible today as a key factor in setting the trajectories of war and those sentiments can be easily seen in examining some of the modern wars in different contexts.

The Ukraine-Russian armed conflict is an ongoing war, which can be used as an ideal case study in assessing the relevance of Clausewitz's warlike element at the ground level. After Russia's launched the military invasion of Ukraine in 2022 February, the public morale among the Russian people seemed to have divided as some eagerly engaged in the war towards its end and some openly hesitated, about whether Moscow could reach a favourable outcome. But, in the case of Ukraine, the people's zeal in defending Kiev was high and the armed forces were combined with the volunteers who appeared to defend the capital. Early reports indicate most of the Ukrainian citizens came forward with the most basic weapons from Kalashnikovs to Molotov cocktails for the sake of defending the capital. To be sure, the strong Ukrainian resistance that Russian forces faced from the Ukrainian people stands as a microcosm of the warlike element of Clausewitz in action. While looking at how warlike elements propounded by Clausewitz came into the picture in armed conflict within a state, the Sri Lankan war becomes the most clear example. Unlike the conventional interstate wars that Clausewitz went on to discuss, the Sri Lankan example is a war within a state that lasted for 30 years between the government and a terrorist organization called "LTTE (Liberation Tigers

of Tamil Elam). Therefore, applying a Western military theorist in analyzing the nature of a war on an island seems to be an absurd task, but such an assumption is likely to be false as the nature of war remains the same regardless of the geopolitical distinctions. In his paradoxical trinity, Clausewitz's war is a strange trinity, composed of primordial violence, hatred and enmity; influenced by the play of chance and probability; and rationally subordinated to politics. The primordial violence, hatred and enmity are linked fundamentally to the people; luck and chance, to the armed forces and their commander; and rationality to the government. (Pereira, 2014) In the 4<sup>th</sup> Elam War, the public sentiment which stood in favour of the government war effort was akin to the manifestation of warlike elements by Clausewitz. In fact, the government mechanism intensified people's participation in the war by various means such as establishing civil security committees across the country, also the media projection depicting the warrior image of a "Sri Lankan soldier" affected the development of people's faith in the victory, which lasted until the complete elimination of LTTE in 2009. (Chandra Prema, 2012)

It is by no means an exaggeration to describe Captain Basil Liddle Hart as the most cited and well-received military theorist, whose military tactics have vanquished the conventional open war strategy of Clausewitz. The "Indirect Approach" that Liddle Hart coined in "The Strategy" became the main mode of resistance embraced by Ukrainians in their efforts to defend Kiev. When the war broke out on the 22<sup>nd</sup> of February in 2022, Russians mounted an armoured and air assault on Kiev with the benign expectation that Kiev would easily surrender before the Russian air power along with the artillery. Russian way of initiating massive attacks denotes the typical Clausewitzian manifestation of war, who preferred direct ferocious attacks with on the enemy. But, Russian war machinery was flabbergasted by the unexpected resistance of Ukraine. Rather than using the massive armed tanks, Ukrainians used hand held missiles such as javelins to carry out sudden attacks on the Russian supply chain. In August 2022, Ukrainians attacked the Russian airbase in Crimea and were targeted by some Ukrainian fighters who bombed eight aircraft. When the fully-fledged war was going on on the Ukraine front, the Ukrainian resistance fighters seemed to have taken it to Russia's heart Moscow itself. It has been reported that two Russian Generals were killed on the war front while Russian military facilities were often targeted by Ukrainian rockets. Last summer Russia suffered heavy casualties as Ukrainian forces intensified

counterattacks based on the "indirect approach" that included the attacks launched on the Russian garrison in Kherson and destroying the major bridges across the Dnieper River, which led to sabotage Russian supply line. Meanwhile, in Moscow, Russia's prime ideologist Alexander Dugin's daughter was assassinated in August, the US suspected that Ukrainians were behind the attack. Last September was a rather catastrophic month for Russians as Ukraine killed nearly 465 soldiers within a week which was followed by another surprise rocket attack on Russian troops on New Year's Eve in Makiivka. Both the attacks manifested Liddle Hart's two principles in the indirect approach, which states direct attacks on firm defensive positions seldom work and should never be attempted and to defeat the enemy one must first disrupt his equilibrium, which must take place before the main attack is commenced.

The utility of the "Indirect Approach" in Sri Lankan military apparatus dates back to the early 90's and it mainly sprang as a result of the massive failures suffered by Sri Lankan armed forces from their conventional combat strategies against the LTTE. Since the outbreak of the Elam war in 1983, the LTTE achieved an extraordinary combating capacity due to various factors and the morale of the Sri Lankan armed forces reached its nadir in the early 90's. By the time General Cecil Waidyaratna became the commander of the Sri Lankan Army in 1991, the array of military defeats of the Sri Lankan army before LTTE was catastrophic, which included LTTE's capture of Mankulam, retreat from Jaffna fort and daily attacks on military vehicles. In his unpublished auto-biography, Waidyaratna describes the sorry state of the Sri Lankan army as one of the military documents praises the saving Elephant Pass military complex under the command of Brigadier Wimalaratne as the greatest military victory earned by Sri Lankan army. Even though General Waidyaratna was not a field officer or a great combatant, he was a genuine military theorist. In a work titled "*Gotta's War*" veteran journalist C.A Chandraprema states

"Waidyaratna was the first army officer, who began to think of a comprehensive mechanism to annihilate LTTE terrorism completely through a prism of military theory" (ChandraPrema, 218)

Based on the previous operational failures of the Sri Lankan army, General Waidyaratna recommended that the Sri Lankan army should launch its operations separately. He acknowledged the inability to combat in both North and Eastern provinces together

as the Sri Lankan army did not possess such an advanced power. Hence, he suggested that the army should focus on the Eastern province where the LTTE remained relatively weaker. In his further analysis, the General believed after capturing the weakest province of the enemy, the Sri Lankan army should use its fullest strength to defeat LTTE in the Northern province. This was what Captain Liddle Hart explained as an indirect approach. Also, he suggested taking intensive actions to increase the capacity of the Sri Lankan navy to combat the supply network of the LTTE.

None of those recommendations were implemented during his tenure and General Waidyaratna passed away in 2001 as a retired general, but surprisingly the operational style adopted by the Sri Lankan army under then-General Sarath Fonseka resembled what Waidyaratna recommended. Between 2007 and 2009, Sri Lankan armed forces relied on the indirect approach rather than the direct approach. The capture of Toppigala and the subsequent military success in the Eastern province paved the path for the Sri Lankan army to consolidate their whole energy in liberating the whole Northern province in 2009.

#### V. CONCLUSION

Both Clausewitz and Liddle Hart were products of their time. The historical antecedents, the events they witnessed, political ideologies they revered simply carved the military philosophies that both of them produced. None of those theories in war are highly unlikely to be the most appropriate ones in an era, where the asymmetries of wars have come to the fore. Even the Ukrainian war efforts harboured by the indirect approach would be challenged by the growing massiveness of Russian attacks. The celebrated wisdom of Liddle Hart has clearly saved the Ukrainian military resistance from a complete collapse. But the bitter reality that looms before the war front is that sooner or later Ukraine will need to face significant battles for decisive results. In particular, the recent shift in Russian war strategy in Ukraine has embraced a more rigorous path consisting of unleashing heavy attacks by a new wave of missile strikes. The overarching analysis arising from this comparative analysis of both Clausewitz and Liddle Hart based on their utility in modern warfare proves the impossibility of adopting a single military strategy. Therefore, the future of the war is likely to be blended between Clausewitz and Liddle Hart by opting for a middle path.

#### REFERENCES

1. Aron, Raymond 1983. Clausewitz: The Philosopher of War, London: Routledge.
2. Clausewitz, Carl Von 1832. On War, London : Penguin Books.
3. Chandraprema, C.A 2012. Gotta's War: Historical Defeat of Tamil Terrorism, Colombo: Vijitha Yapa.
4. Huntington, Samuel 1996. The Clash of the Civilizations, London : Penguin Books.
5. Keegan, John 2000. The First World War, London: Penguin Books.
6. Kennedy, Paul 1986. The Rise and Fall of Great Powers, New York: Vintage.
7. Lewin, R 1972. The Captain who taught Generals, *International Affairs*, Vol.47, No.1
8. Liddle Hart, Basil 1929 Strategy, New York: Oxford University Press.
9. Liddle Hart, Basil. 1967 Why don't we learn from history? London: Oxford University Press.
10. McNeill, William. 1982. The Pursuit of Power: technology, armed force and society since AD 1000. Chicago: Chicago University Press.
11. Pereira, Lucas. 2014. Innovation and the Warlike Phenomenon, *Brazilian Journal of Strategy and International Relations* , Vol.4, No.6.
12. Shephard, John E, 1991. Is Clausewitz still relevant ?, *US Army War Quarterly*, Vol.2, No.1
13. Waltz, Kenneth. 1959. Man, State and War: A Theoretical Analysis, New York: Columbia University Press.

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# Evaluating Weather Warfare in Alternative Futures: A Game Changer in Future Power Rivalry

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**Abstract**— *Weather warfare or in other words weather modification, finds its place in warfare history in the past and in emerging technologies in the present context. During different eras of world history amidst being challenged for its legality and environmental impact, weather modifications survived under the shield of scientific purposes. Against this backdrop, weather warfare being the elephant in the room in power rivalry, this paper finds it imperative to evaluate its futuristic aspects in terms of alternative futures.*

*Therefore, the problem statement of this paper is to answer the plausibility of weather warfare in alternative futures. In order to find feasible solutions, the methodology adopted in this paper is qualitative based on secondary sources including media and the internet and it is further analyzed using the four alternative scenarios for the future. The discussion includes evaluating the usage of weather warfare in the past, elaborating on the usage of weather warfare in the present context, revisiting the possible methods of weather warfare based on inventions in world history, critically examining the legality of weather warfare and finally to analyze weather warfare as a possible game changer in future world power rivalry. As a result, the main objective of this study is to unveil the plausibility of weather modification as a military strategy in alternative futures with its' possibility to identify as a game changer in world power rivalry.*

**Keywords**— **Weather Warfare, Alternative Futures, Power Rivalry**

## I. PROLOGUE

In the introduction, it is aimed to define the key terms of this paper, namely, weather warfare and alternative futures.

The term ‘weather warfare’ or ‘weaponizing weather’ means creating adverse weather conditions to result in a disastrous battlefield for hostile parties. In other words, weather warfare means the use of weather modification techniques for military purposes. ‘Weather’ and ‘War’ are two concepts closely linked. Warriors throughout the ages have used weather to their advantage, and some have suffered from its effects on the outcome of battles. As explained by Coble (1997), “*The timing of the Normandy invasion on D-day, 6 June 1944, was dictated*

*by a favourable weather forecast. While the Allied weather forecasters got it right, the German forecasters felt the weather would prohibit the successful crossing of the English Channel. This forecast contributed to the unsuspecting mood of the German military on that particular day. During the same war but in a different theatre, the Japanese used the weather to conceal their approach to the Hawaiian Islands, enhancing their surprise attack on Pearl Harbor”.* Similarly, there are various examples of situations where weather played a critical role in the outcome of war. Historically, the military adapts to the weather. In addition, even the training manoeuvres are framed in adapting the soldier to the changing environment or to the climate. Thus, what if military forces could shape the weather to enhance operations, hinder or prevent enemy operations, or both? Such is the futuristic promise of weather modification in alternative futures.

Further, in terms of scientific and commercial purposes the term ‘weather warfare’ is often used as ‘weather modification’, defining the means of artificially attempting or creating or altering climate for *bona fide* purposes.

Alternative futures are one of the main categories of Future Studies. Its four alternative scenarios for the future are developed by the University of Hawaii. Alternative futures can be defined as a series of imagined but plausible states of things which would occur in the future world. As per England’s Economic Heartland, alternative futures are not predictions of the future, rather they are plausible futures that reflect different drivers of change.

Weather warfare to be used on the battlefields as a military strategy requires high technological advances which could be afforded only by the superpowers in warfare. In order to test ‘weather warfare’ in alternative futures, it is a must for its plausible occurrence rather than to be a mere prediction. Weather warfare not being a novel concept, has been used in battlefields back during World

War II as per the recorded history and maybe the inventions trace back even to prior eras in which no written evidence has been found. On the other hand, in the present context, weather modification has been tested by many countries to advance their crops and also as a viable means to overcome climate change challenges. In these circumstances, it is apparent that there is a plausible occurrence of weather warfare in the world power rivalry in alternative futures.

## II. RESEARCH METHODOLOGY

The problem statement, methodology and the objectives of this research are as follows;

The research problem of this paper is mainly focused on answering the plausibility of weather warfare in alternative futures.

The methodology of this paper relied on qualitative methodology and further, according to the principles of alternative futures, weather warfare will be tested in terms of the four alternative scenarios of 1) growth, 2) Collapse, 3) Constraint and 4) Transformation. The application of these four scenarios to weather warfare could summarily be done as follows: the first component of *growth* stands for the modification or weaponizing of weather as a concept and its later application on the battlefields. The second component of *collapse* resembles the critics against the weather warfare aftermath of its application. The third component of *constraint* stands for the legal limitations against weather warfare and finally, the fourth component of *transformation* could be the plausible futuristic application of weather warfare as a game changer in world power rivalry which this paper strives to outline.

Furthermore, in order to answer the given problem statement, this study requires an extensive study of weather warfare, and as a result, the objectives of this research aim to:

- Evaluate the usage of weather warfare in the past
- Elaborate the usage of weather warfare in the present context.
- Revisit the possible methods of weather warfare based on inventions in world history.
- Critically examine the legality of weather warfare.
- Analyze weather warfare as a possible game changer in future world power rivalry.

## III. HISTORICAL BACKGROUND

The evidence of the usage of weather warfare in the past is barely traceable due to the confidentiality and restrictive nature of those experiments. Few available records of Western examples are as follows:

**Project Cirrus** was the first scientific effort to seed clouds by the US Department of Defence (DOD) in the late 1940s when the US Army Signal Corps contracted to provide support for the project. During the 1950s and early 1960s, military interest in weather modification was limited, thus the interest appeared during the Vietnam War. As per Coble (1997), the first scientifically controlled and monitored effort generally recognized by the meteorological community as constituting weather modification occurred in 1948 when Dr Irving Langmuir first experimented with artificially seeding clouds in order to produce rain. It is stated that his experiments showed positive results, sparking tremendous interest in the field nearly overnight. Though no conclusive evidence could be traced, this paper suggests this may be the same attempt in weather modification where the DOD was involved as stated above.

**The Tirpitz** was the Nazis' most imposing warship and the largest battleship ever built by a European Navy. It was also nicknamed "The Lonely Queen of the North" by Norwegians and "The Beast" by Winston Churchill. The battleship had been anchored at Kafjord to threaten Allied ships bringing supplies to the Soviet Union. This massive vessel should have been an easy target for bombers. Therefore, Hitler's navy used a toxic artificial fog to conceal the ship when it was stationed in the Norwegian fjord. Gannon (2018) stated that "*Nazis released chlorosulfuric acid into the air, which attracts moisture and can create a smoke screen. ....The substance is known to be corrosive, and the group of soldiers responsible for producing this smoke had to wear special protection suits*". It is also recorded that the ship was finally sunk by Allied bombs in 1944. Thus, it is scientifically proved that the adverse environmental impact of this one military engagement during World War II is still evident in the forests of Norway.

**Project Popeye**, was a US mission used to weather modification in North Vietnam and in Laos during the Vietnam War back in 1967. Here, the environmental modification technique of cloud-seeding is applied by the US military. As per the records found in the Office of the Historian (1967), Volume XXVIII of Foreign Relations of United States 1964-1968 clearly spelt out that the objective of was to prolong the monsoon season and block enemy supply routes along the Ho Chi Ming Trail. This project was "*a test phase approved by State and Defense and conducted during October 1966 in a strip of the Lao Panhandle generally east of the Bolovens Plateau in the valley of the Se Kong River. The test was conducted without consultation with Lao authorities (but with Ambassador Sullivan's knowledge and concurrence) and, to the best of our knowledge, remains unknown to other*

than a severely limited number of U.S. officials". It is said that during the test phase, more than 50 cloud seeding experiments were conducted. The results are viewed by the DOD as outstandingly successful. The amount of rainfall-induced by seeding is believed to have been sufficient to have contributed substantially to rendering vehicular routes in this area inoperable. It is also mentioned that "*in one instance, the rainfall continued as the cloud moved eastward across the Vietnam border and inundated a U.S. Special Forces camp with nine inches of rain in four hours*". It is the writer's opinion that in this test attempt of weather warfare, the US military has developed advanced capabilities that enable it selectively to alter the weather patterns.

#### IV. WEATHER WARFARE IN THE PRESENT CONTEXT

In the present context, weather warfare can be twofold. One, is the scientific and/or commercial weather modification and the other, is the military application of weather modification.

It is evident that in the recent past China, the United Arab Emirates and Saudi Arabia scaling up rainmaking. They perform these innovations as scientific experiments thus China's attempts in artificially altering weather also affect the neighbouring States such as its competitor India and similarly, between the Middle East rivals UAE and Saudi Arabia. For example, Dubai, a UAE emirate, commenced cloud-seeding back in 2010 in order to increase the groundwater level. According to the World Meteorological Organization, Mexico's Air Force, for example, has begun cloud-seeding in the past 12 months. The Arctic Ice Project, an NGO, intends to deploy small hollow glass beads, composed of silicon dioxide, across parts of the Arctic Sea's ice and in the Arctic Ocean to increase reflectivity and slow global warming. Australian universities are piloting a salt spray over the Great Barrier Reef to reflect more of the sun's heat in an attempt to conserve the reef. (Racsek, 2022) These are a few of many incidents that took place worldwide in terms of weather modification.

In terms of military application of weather modification: the one type of weather modification still used by the US military is fog suppression. Fairchild AFB in Spokane, Washington, has the only operational fog suppression system in the US military. Installation of this system occurred in the early 1970s as part of **Project Cold Wand**, an experiment to explore the possibilities of fog suppression. Two other systems were installed, one at Elmendorf AFB, Alaska, and the other at Hahn Air Base (AB), Germany. (Coble, 1997, p.21)

However, this paper argues that in the present context, ultimately, both folds of aforementioned weather modifications fall under weather warfare in terms of power rivalry despite the objective being scientific or commercial.

#### V. POSSIBLE METHODS OF WEATHER WARFARE

Coble (1997) mentions that most Benign Weather Modifications (BWM) efforts focus on four general areas: 1) precipitation or rainfall enhancement, 2) hail suppression, 3) fog dispersal, and 4) snow augmentation. All four areas are of commercial interest, encouraging continued research.

Agricultural interests continue to focus on rainmaking or precipitation enhancement to alleviate occasional drought, while hail suppression is important in reducing crop damage. The aviation community continues to explore the means needed to disperse fog in order to improve airport efficiency and safety as well as on-time rates. Ski resort operators use snow augmentation techniques in order to supplement the natural snowfall. In addition, local communities depending on snowpack for drinking water occasionally use snow augmentation to increase winter snowfall.

Moreover, Dr. Joseph Golden of the National Oceanic and Atmospheric Administration (NOAA) Office of Oceanic and Atmospheric Research at Silver Spring, Maryland assumed that three new likely areas of weather modification research in the future as: 1) ice storm suppression or abatement, 2) hurricane modification, and 3) tornado modification. (Coble, 1997, p.10)

In this regard, Racsek (2022) comments, "*The technology falls, generally, into three categories with different objectives: fertilizing the ocean to increase its uptake of carbon; brightening clouds or ice to reflect more sunlight back into space and thus reduce global or local warming; or the most common technology – as seen in agricultural communities or ski resorts – of injecting aerosols into the stratosphere to increase rainfall or snow, or to modify a storm*".

Furthermore, with regard to artificial earthquakes, though not yet a popular topic in weather warfare debate, have an imperative history based on an electro-mechanical oscillator which was a steam-powered electric generator patented by Nikola Tesla in 1893. Sources declare that later in life, Tesla claimed one version of the oscillator caused an earthquake in New York City in 1898, gaining it the popular culture title 'Tesla's earthquake machine'. Thus, sadly, the aftermath of this innovation is silent in world history even though some critics complain that the machine was stolen by a powerful State.

In addition, one of the earliest forms of lightning machines was recorded in ancient Greece with regard to stage machines as described by Julius Pollux in his *Onomasticon* and part of this was the *keranoskopeion*, which was a lightning machine. (Kuritz, 1988) Further, in the present context, a pocket-carrying Tesla Coil Lightning machine is available to purchase in online marketing. In these circumstances, there is a high possibility of using these mechanisms in weather warfare by the powerful States.

Therefore, this paper emphasizes that there is a plausible usage of artificial earthquakes as well as lightning in alternative futures apart from the other weather warfare techniques.

#### VI. LEGALITY OF WEATHER WARFARE

In short, United Nations (UN) treaties prohibit using weather modification to kill or maim people. Modifying weather to cause injury or death is outlawed. For instance, causing lightning to strike exposed enemy infantry is illegal as per the International Humanitarian Laws.

However, the best mechanism for policing such interventions is found in a UN convention that dates back to the end of the Vietnam War following the ethical concerns of Operation Popeye. The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, known as the ENMOD Convention, came into force in 1978 and has been ratified by 78 countries, including Russia, the United States, Britain, China and Germany.

ENMOD's Article I emphasize that signatories are 'not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party'. Article II outlines 'any technique for changing – through the deliberate manipulation of natural processes – the dynamics, composition or structure of the earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space'. This covers all weather- and climate-modifying technology currently in use.

Chossudovsky (2008) comments, "*While the substance of the 1977 Convention was reasserted in the UN Framework Convention on Climate Change (UNFCCC) signed in the 1992 Earth Summit in Rio, debate on weather modification for military use has become a scientific taboo. Military analysts are mute on the subject. Meteorologists are not investigating the matter environmentalists are focused on greenhouse gas emissions under the Kyoto*

*Protocol. Neither is the possibility of climate or environmental manipulations as part of a military and intelligence agenda, while tacitly acknowledged, part of the broader debate on climate change under UN auspices"* Therefore, it is clear that though military tampering with climate and environment is illegal thus it seems operative under the shield of scientific purposes.

#### VII. AS A GAME CHANGER IN WORLD POWER RIVALRY

With the afore discussed, it is apparent that there is a plausible usage of weather warfare in alternative futures which will become a potential tool in the world power rivalry. Therefore, in order to establish weather warfare as a game changer in the alternative future, the following has considered one example of cloud-seeding or rainmaking in the evaluation.

As the Science for the People Magazine publication in 1972 on weather warfare elaborating on Project Popeye, it suggested that weather modification could be used to achieve longer-range military, economic, or political effects despite the general expectations in conventional warfare, "*strategic rain-making could be used to slow infiltration. Or adjustments of dry and wet weather during growth and harvest times could disrupt the economy and social structure of a small country; it could create famine or at least extreme hardship"* In this backdrop, it is clear that further to the disastrous effects that rain-making, if weather warfare constructed rain stopping, it could have cause a major devastation on human society, for instance, crop destruction, floods, drought, etc and the potential ecological effects. On the other hand, increasing rainfall beyond the watershed capacity of the land could create flooding and landslides. Weather modification would probably alter the structure of plant and animal communities due to changes in their reproduction, growth and mortality rates in weather-sensitive species. The danger is irreparable as the causes would require several years for the ecological changes to be noticed.

Most importantly, aside from these plausible environmental consequences, at a time of increasing geopolitical tensions a well-intentioned weather manipulation has a greater chance to be viewed as hostile. For example, weather manipulation tools could be used to disrupt a neighbour's agriculture or military planning. Experts even predict that future warfare will be fought on natural resources as the world already witnessed in the Middle East. As a result, weather modification even in terms of overcoming climate change by one country will have adverse effects on neighbouring States despite the reason not being a pure military-minded weather warfare.

### VIII. CONCLUSION

Thereby, the results of weather warfare can be favourable to one country while being hostile to another. In fact, the advancement of technology has become the major cause in making the winner in the world power rivalry. Technology has never developed without an objective, it is fair to inquire what to do with the advanced technology. The future of weather warfare is highly dependent on the advancement of technology. Therefore, it is crystal clear that rather than praising technology the real matter is to question what is the purpose of the technology. In alternative futures, there seems a plausible possibility of the powerful states using weather warfare to dominate the regions in the world and the pathway to this process is guided under the veil of scientific or commercial purpose whereas the true face of military purposes. In this backdrop, revisiting the ENMOD is a timely requirement in order to control the weather warfare in alternative futures due to its high plausibility as a military strategy in future warfare as well as in diplomacy which could be used in both ways as a hard power and as a soft power. Therefore, finally, it is evident that there is a plausibility of weather warfare as a military strategy in alternative futures, especially as a potential method to become a game changer in world power rivalry in the future.

### REFERENCES

1. Chossudovsky M. (2008) Weather Warfare. Ecologist. [Online] Available at: <https://theecologist.org/2008/may/22/weather-warfare> Accessed: 25 July 2023
2. Coble B. (1997) Benign Weather Modification. [Online] Available at: [https://media.defense.gov/2017/Dec/28/2001861722/-1/-1/0/T\\_COBLE\\_BENIGN\\_WEATHER\\_MODIFICATION.PDF](https://media.defense.gov/2017/Dec/28/2001861722/-1/-1/0/T_COBLE_BENIGN_WEATHER_MODIFICATION.PDF) Accessed: 25 July 2023
3. England's Economic Heartland. Understanding Alternative Futures [Online] Available at: <https://www.englishseconomicheartland.com/our-work/connectivity-studies/understanding-alternative-futures/> Accessed: 24 July 2023
4. Gannon M. (2018) How a Bizarre Nazi Machine Left a Lasting Mark on the Environment. [Online] Available at: <https://www.livescience.com/62300-nazis-world-war-ii-tree-rings-tirpitz-artificial-fog.html> Accessed: 24 July 2023
5. Kuritz P. (1988). The Making of Theatre History. Englewood Cliffs, NJ: Prentice Hall. p. 28. ISBN 9780135478615.
6. Office of the Historian (1967) Weather Modification in North Vietnam and Laos (Project Popeye) [Online] Available at: <https://history.state.gov/historicaldocuments/frus1964-68v28/d274> Accessed: 24 July 2023
7. Racsek T. (2022) Geoengineering: Reigning in weather warriors. *Chatham House*. [Online] Available at: <https://www.chathamhouse.org/2022/02/geoengineering-reining-weather-warriors> Accessed: 25 July 2023
8. Science For The People (1972) Weather Warfare [Online] Available at: <https://archive.scienceforthepeople.org/vol-4/v4n4/weather-warfare/> Accessed: 24 July 2023
9. Sveverson P. Use of weather manipulation tools stokes geopolitical tensions. *Weather Wars*. [Online] Available at: <https://widgets.weforum.org/future-shocks/weather-wars/index.html> Accessed: 24 July 2023

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# Achieving Resilience through Digitalization, Sustainability and Sectoral Transformation - What Are the Long Term Strategic Options and Reforms for Sri Lanka Armed Forces

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**Abstract**—Periodic circumstances in Sri Lanka's history have warranted strategic realignment of its instruments of national power to suit changing global and regional power dynamics. Recent global events and regional incidents have pushed Sri Lanka to look inward and among others rethink its Economic, Foreign and Military Grand Strategies. The paper touches upon unconventional/asymmetric warfare, cyber warfare and the use of Intelligence and clandestine operations as an alternative to ensuring national security and a war strategy for numerically inferior smaller states. Clausewitz asserts that the defensive mode of warfare possesses inherent strength surpassing that of the offensive. In order to overcome this formidable defensive strength, Clausewitz contends that an army's most effective weapon is the advantage of superior numerical strength. Based on this theoretical framework, it may be argued that a significant number of countries globally face economic constraints that prevent them from maintaining numerically superior military forces. In his book "Spec Ops," William H. McRaven postulates that smaller forces might attain a position of relative supremacy within limited timeframes. The paper does not establish a connection between the concept of relative supremacy and the instruments of power related to Diplomacy and Foreign Policy, Trade, and Economy. The concept is often emphasised in the military sphere as a feasible path of action.

**Key Words:** *Relative strength, unconventional / asymmetric warfare, numerically inferior*

## I. INTRODUCTION

The rise of complex super power competition in the Indian Ocean Region (IOR) has become the economic and political centre of gravity in the Indo-Pacific paradigm (Bhat, 2022) and Lanka appears to be right in the middle of this quagmire. The Indian Ocean Region (IOR) and global geopolitics created a new arena where major forces will compete, with far-reaching effects on the area and the entire

world. In this context, defending the sovereignty and territorial integrity and safeguarding Sri Lanka's core values entrenched in the constitution become of paramount importance. Rebuilding Sri Lanka to forge new mechanisms between regional players in order for it to respond to these changing power politics and rethinking national security policy and strategy to achieve resilience through digitalization, sustainability and sectoral transformation is timely with contemporary long term strategic options and reforms for Sri Lankan Armed Forces.

While Sri Lanka is keeping open its Diplomatic and Foreign Policy channels it is reorienting some of its economic policies in order to bail out the present economic crisis the country is facing.

In the military domain it has taken up the quintessential task of reorganising the Armed Forces to face new threats. However, even though Sri Lanka has the capability to defend limited geographic areas, the question remains if it can sustain a prolonged conflict of a high tempo attrition war with limited incursions in depth? In the paper the author from purely an academic point of view has suggested and broadly sketched out a strategy of unconventional warfare based on William H McRavens theory of Unconventional warfare and the concept of Relative Superiority where he hypothesizes that numerically inferior forces can achieve relative superiority for short periods through the use of unconventional warfare. With rapid development in the AI, information systems and technological domains the concept of unconventional/asymmetric warfare can be applied within the concept of relative superiority in the cyber domain as a strategy for national security.

## II. CHANGING DYNAMICS AND STRATEGY FOR SRI LANKA

In the face of cognizant developments Sri Lanka has to posture its instruments of national power to orchestrate to

develop and execute a strategic option for Sri Lanka. Apart from the traditional instruments of power Diplomatic, Informational, Military, and Economy the author recognizes “Public Will” which also translates as the will of the strategic leadership and the will and resilience of the people as another instrument of national power. In addition, technology is also identified as a very important sub paradigm of national power.

Intangible economic assets, such as the volume of a state's gross national product (GNP) or the size of its defence sector, may naturally only provide a partial understanding of a state's military capability. According to van Crevald's research (1991, chapter 20), a higher morale and training can frequently compensate for a lack of superior armament. Other key intangibles are a state's organisational capacities and administrative prowess, which allow it to make the most of the resources it possesses and maximise their potential return on investment.

In context of conventional war and national security, the very reason states engage in defence coalitions or alliances are to improve relations with nations in order to deter potential adversaries or in expectation of collective protection from more powerful adversaries. Considering this the following strategic dilemma remains; (a) in the event an alliance is formed with a country, to what degree of action will it commit? and; (b) how reliable will the partnership be? (c) will the alliances risk sharing cyber, and information satellite platforms etc..(d) what is the collateral damage of that country losing its strategic autonomy?

Therefore taking all this into consideration the need to craft and implement coherent achievable strategies for Sri Lanka is very important. Also being self reliant economically and militarily is vital for the *honourable* existence of Sri Lanka. As strategy must be based on factual threat assessments and probabilities it should be realistic in concept and application<sup>1</sup>. In this context, the threat landscape into the next decade or more will be shaped by geo-strategic, political, economic, nuclear military, space and cyber contours that will dictate future conflicts. Is Sri Lanka holistically ready to face these situations today? No. Therefore strategy must evolve as per ground reality and present and foreseeable future circumstances.

*1). Military modernisation:* The process of defence modernisation involves the replacement of old obsolete weapons and weapon systems with more contemporary ones and also the change of doctrine from internal security

to external security based on each countries threat perception of perceived and real threats. Even though economically underdeveloped countries will face difficulty in modernisation in the realm of national security this there is little option.

No military force that thirst for modernization can get by without nurturing, new technology, while the demands of war have always been the mid wife of new technology. During the gulf war , more than 500 kinds of new and advanced technology of the 80s and sent it to the stage to strike a pose, making the war simply seem like a demonstration site for new weaponry. (Qiao Liang, 2007, pp. 4-5) .The ability to coordinate multiple weapons over long distances in real time has resulted in an unparalleled combat capability, a development that was previously inconceivable prior to the advent of information technology. The advent of technological integration and globalisation has rendered traditional categorizations of warfare obsolete, thereby reshaping the dynamic between weapons and war. The emergence of novel conceptualizations and particularly innovative weapon concepts has progressively obscured the conventional understanding of warfare. Can a single cyber attack be considered a hostile act, or can the use of financial tools to destabilise a country be classified as a battle? (Qiao Liang, 2007, pp. 4-5). In this context, Sri Lanka cannot only be mindful of its physical borders, but has to be conscious of its virtual borders as well as both military and non-military means that are utilised to protect and safeguard national security. It is thus clear that the concept of national security is broad and that it has no clear and precise boundaries. (Senaratne, 2010). Given the conventional understanding of war, the startling realisation that non-war actions may potentially serve as novel elements in future warfare, further gives credence to the concept of unconventional and asymmetric warfare as a strategy to numerically inferior forces.

## II. SECURITY CHALLENGERS

### A. Threat Factor

There is no major conflict threat facing Sri Lanka following the 2009 conclusion of a long-running civil war. However, unresolved communal tensions are a problem, notably in northern and eastern provinces. Considering the present security environment as indicated in an article in the Ministry of Defence website “prior to 18th May 2022, the Indian intelligence had warned of a possible ex-LTTE to plan to carry out an attack in Sri Lanka (Dias, 2022). There is also a growing concern over Islamist

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<sup>1</sup>Defence Academy of the United Kingdom.(2017). Getting Strategy Right. (Available online). [https://www.da.mod.uk/Portals/0/Documents/RCDS/20170904CDS\\_Getting\\_Strategy\\_Right\\_Enough\\_Final.pdf?ver=2017-09-08-090748-807](https://www.da.mod.uk/Portals/0/Documents/RCDS/20170904CDS_Getting_Strategy_Right_Enough_Final.pdf?ver=2017-09-08-090748-807)

[Accessed 2020]. Pg 22 .

radicalization and Islamic State claimed suicide attacks on churches and hotels in April 2019 (Crisis 24 Sri Lanka Country Report, 2023). Among other concerns Sri Lanka's geographical location between the golden crescent and golden triangle, two main drug production regions in the world has influenced the inflow of drugs into the country resulting in a growing drug problem in Sri Lanka (Dias, 2022). In addition to the aforementioned, the social movement that took place in Sri Lanka in 2022 shared characteristics with the 'Arab Spring' in the Middle East. The protests in Sri Lanka took place as the nation was going through its worst economic crisis since gaining independence. Apart from Terrorism, Religious Extremism Transnational Organised Crime and geopolitical competition in the region the use of social media and new social movements has come to the forefront of security concerns.

*1) Cyber Security:* The integration of technology in both our personal, professional and national security spheres has become increasingly intertwined, surpassing previous conceptions of possibility within an only few decades. Cyber-attacks, in support of conventional military operations have a great deal of potential to be force multipliers on today's complex battle fields. Imagine a simultaneous attack in cyber space and in the physical realm, designed to cripple a country's ability to communicate, both internally and externally, and making it virtually unable to defend against a military assault by conventional forces. In 2008, that very scenario was carried out in the Russo-Georgian conflict with Russian conventional operations supported and its success enhanced by a carefully coordinated cyber strike, via a surrogate force, that was able to render the Georgian Republic incapable of defending itself in either the cyber or physical domain. (Eidman, 2014).

The integration of cloud computing, mobile technology, and high-performance personal devices has fostered a culture characterised by convenience, enhanced collaboration, and increased productivity. (Roles and Responsibilities of Cyber Security Professionals, 2023). While the ease provided by this phenomenon might be acknowledged, it also facilitates the potential for hackers to acquire unauthorised access to our sensitive personal data, regardless of its location or the network it traverses. These individuals with malicious intent possess significant motivation as well, as there exists a profitable market for the trade and misuse of such data. Despite the presence of highly skilled Cyber Security Professionals, it is inevitable that hackers and cybercriminals will ultimately discover means to gain unauthorised access to one's data. (Roles and Responsibilities of Cyber Security Professionals, 2023) Nevertheless, it is important to note that not all

circumstances are devoid of hope. Information technology security specialists are actively engaged in the forefront of combat, diligently striving to safeguard against the ever-changing array of threats.

*2) Social Media:* The concepts of 'traditional propaganda' and 'psychological warfare' have been vastly replaced by those of 'information warfare', 'information operations' and 'psychological operations' (Huhtinen & Rantapelkonen, 2003). Kotelenets & Barabash (2019) coherently compare and contrast the difference between the doctrines of propaganda and information war, where they note that propaganda mainly emphasises the positive perception of 'us', while information warfare is the act of emphasising the negative image of 'others'. On the other hand social media uses a combination of propaganda, psychological warfare and information warfare for mass mobilisation and exploitation of the public for political purposes to an extent that it has now become a threat to national security. Social media is also used to shape a political environment, to orchestrate large scale protest, move organisations, penetrate into all segments of society including school children and lastly to scale social stratification to mobilise from public sector trade unions (public and private sector) to private sector employees. As in many other countries of the world in Sri Lanka there appears to be a growing complicit secret social surround that serves to bring together likeminded individuals through the internet and other social media platforms. This is a medium that is hard to monitor and preventive action is hard to come by. Sri Lankan security sector is presently not geared to handle a large scale situation due to lack of expertise, technology and infrastructure.

*3) Impact of Social Media:* The impact of social media platforms on the political systems of diverse nations can exhibit significant variations. The impact exhibits variation across democratic and authoritarian governments, encompassing both inter- and intra-state dynamics. It primarily hinges upon three key political actors: domestic resistance, external factors, and the governing regime. The effects of social media can vary depending on the utilisation strategies employed by three players, namely individuals, organisations, and governments. Additionally, the impact is contingent upon the level of state capability and the type of political system in place. Consequently, four distinct effects of social media can be identified. The phenomenon under consideration can potentially undermine robust democratic regimes, amplify the power dynamics within strong authoritarian regimes, radicalise feeble democratic regimes, and induce instability within weak authoritarian regimes. (Guy Schleffer, 2021).



Coupled with these threats like many other countries in the region and the world Sri Lanka too is vulnerable and susceptible to a diverse range of cyber related occurrences, regardless of their goal or origin. According to statistics 63 percent (63%) of cyber attacks comes as internal threats (Threat Intelligence, 2023). The information transmitted within cyberspace is susceptible to being utilised for malicious objectives by both governmental entities and non-state individuals or groups. It is foreseeable that terrorists will soon be responsible for significant cyber incidents, as they have progressed beyond mere website defacement and are now capable of inflicting tangible harm onto their adversaries, particularly targeting key infrastructure. To this end, on 18th of May 2018, the organization called “Tamil Eelam Cyber Force”, hacked the Sinhala version of the official website of the Ministry of Tourism Development and Christian Religious Affairs. Furthermore, they hacked the website of the Democratic Socialist Republic of Sri Lanka Honorary Consulate in Kerala. (Bulathgama, 2023). Further, Local media reported in August that year of a loss of an estimated two terabytes—or 2,000 gigabytes—of classified information from the Lanka Government Cloud (LGC), which risked endangering the business relationships of local drug companies with their foreign principals (ECONOMYNEXT, 2023). The implications of these development will have a profound impact on the whole security dynamics of Sri Lanka. In order to effectively address the challenges of cyber security and mitigate the risks of cyber war and cyber crimes, it is imperative to establish a shared vision and collaborative efforts on an international scale. Sri Lanka ranks 81st out of 175 countries in the National Cyber Security Index. In January, it scored a 0 for protection of digital and essential services. The country was, however, given nine out of nine points for education and professional development (Dobberstein, 2023). The threat landscape continues to expand with the increasing connectivity of devices and systems through the Internet of Things (IoT) and the proliferation of digital technologies. Cyber attacks such as ransom ware, phishing and insider threats remain pervasive and pose significant risk to enterprises, governments and individuals alike. Although these threats are nothing new, as data continue to be produced and stored in greater volumes, and as connectivity expands globally, the attack surface has become more exploitable with gaps and vulnerabilities that are appealing to criminal and nation-state hackers. In 2023, cyber threats are expected to rise as unrest around the world

contributes to an increase in cybercrimes. Malware attacks (e.g., ransom ware attacks) are also expected to target more enterprises. (Lim, 2023). In a strategic environment that is shifting from conventional threats to cyber and information domains, the threat priority for Sri Lanka in the present should be cyber security and emphasise the need of including cyber security as part of unconventional defense strategy for Sri Lanka.

Through the years Sri Lanka developed its military capability mainly to counter terrorism and separatism with the LTTE as its primary adversary. In any conventional military eventuality Sri Lanka as an Island nation does not geographically have a strategic or even a tactical depth. Sri Lankan Armed Forces are not equipped and does not have the capacity of denying territorial gains to be able to take on an offensive posture by opening multiple fronts along its border and fighting a limited geographical battle and even gaining tactical victories. Nevertheless, the short term defensive battle will have to be fought to retain the initiative and deny penetration in depth. But, how about the long term strategy? Therefore, the author suggests a long term strategy totally opposite to conventional military thinking, which is a strategy of unconventional and asymmetric warfare.

### *B. The Strategy*

Clausewitz states that "The defensive form of warfare is intrinsically stronger than the offense" and to defeat 'the stronger form of warfare' "an army's best weapon is superior numbers".<sup>2</sup> Given this theoretical construct most countries in the world cannot economically have the luxury of numerically superior forces. However, in his book “Spec Ops” William H McRaven hypothesize that numerically lesser forces can achieve relative superiority for short durations by the employment of Special Forces operations. In the paper the concept of relative superiority here is not associated to Diplomacy and Foreign Policy, Trade and Economy aspects of the National Instruments of Power. The concept is much highlighted in the Military and Cyber domain as a viable course of action.

## IV. UNCONVENTIOANL WARFARE

Unconventional warfare which is always thought about as a broader area of special warfare could be another “course of action that integrates ends, ways and means to meet policy objectives”<sup>3</sup> in the long term. Here the author looks into concept of Special Operations as iterated by Willim H McRaven in his thesis “The Theory of Special Operations”

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<sup>2</sup>William H McRaven.(1993). The Theory of Special Operations. Naval Post Graduate School. Monterey, California. Pg 2.

<sup>3</sup> Defence Academy of the United Kingdom.(2017). Getting Strategy Right. (Available online). [https://www.da.mod.uk/Portals/0/Documents/RCDS/20170904CDS\\_Get](https://www.da.mod.uk/Portals/0/Documents/RCDS/20170904CDS_Get)

ting\_Strategy\_Right\_Enough\_Final.pdf?ver=2017-09-08-090748-807. [Accessed 2020].

where he uses the concept of Relative Superiority - “Relative Superiority can be defined as a condition that exists when an attacking force, generally smaller, gains a decisive advantage over a larger or well defended enemy”<sup>4</sup> which is an appropriate form of warfare for smaller forces to fight more advanced forces where the “concept of relative superiority theory” could be applied to unconventional warfare with ingenuity and cunning to gain advantage and retain initiative over larger forces. Unconventional Warfare is defined as “operations conducted by, with, or through irregular forces in support of a resistance movement, an insurgency, or conventional military operations”.<sup>5</sup> The author also suggests in this paper using the concept of relative superiority to the cyber domain and as part of the strategy to achieving resilience through digitalization, sustainability and sectoral transformation as a part of reforms for Sri Lanka’s Armed Forces. Given that Sri Lanka faces a number of security challenges, including terrorism, maritime piracy, and natural disasters digitalization can help the Sri Lankan military to address these challenges by improving its intelligence gathering, communication, and coordination capabilities as defensive and offensive cyber security measures.

*1)The Human Factor:* Unconventional warfare as a means to achieving strategic objectives lies more on the human factor such as motivation and will to fight, loyalty, and spirit de corps, strong belief in the cause, leadership and initiative and values more than in weaponry. However, in the future wars these values will not compensate for the lack of knowledge in the cyber domain while the manner or the modus operandi of unconventional warfare will depend on the larger context of the war, while the entire spectrum of war, whether it is large scale general or nuclear war or a cold war situation it will provide opportunities for unconventional warfare in the physical domain and in the cyber domain.

In this paper the author refers unconventional warfare as a strategy not only in the military domain as it alone is highly unlikely to achieve the desired outcome or end state unless it is applied with other available instruments such as digital and cyber domain<sup>6</sup>, information warfare, psychological operations, intelligence and clandestine operations/ covert operations, exploitation of available fault lines and maintenance of a high degree of secrecy. Here, the author refers to unconventional warfare not in the sense of using tactics opposite to conventional norms but goes

beyond the military understanding of unconventional and include the condition between supported non state actors, perception or psychological warfare where rival nations try to impose their national interest by imposing on own strengths and weaknesses, subverting transnational information systems, drug warfare, financial warfare, cultural warfare, media and fabrication warfare (Qiao Liang, 2007, p. 12). For the strategy to work “as current UK doctrine notes, the instruments ‘...should act together, unified behind a common national goal’<sup>7</sup>.

*2)The military domain of unconventional warfare :* The military domain of unconventional warfare will encompass all facets of guerrilla war from hit and run tactics to subversion and sabotage deep in the enemy rear areas from minor harassing tactics to chosen strategic assets or disrupting lines of communication in order to force the enemy to commit time, troops and resources as a defensive measure for numerically inferior forces. The smallest Special Forces team to be deployed should be four man teams as escape, evasion, concealment and survival is much easier in smaller numbers as opposed to company or battalion size infiltrations. This is another means of waging protracted attrition warfare in the offense and defence both. Also in the eventuality of incursion into depth areas mobilising local para-military and population as resistance and fighting in built up areas is also food for thought and doctrinal development. While this will stand good for the land warfare component the Air and Sea components will have to adopt a more conventional course of action. However, employing these components in support of unconventional warfare will be the ingenuity of military planners and the daredevil commitment of air and naval troops.

*1)Cyber warfare:* Active cyber operations that involve hacking into computers frequently use an intrusion model. Although the approach is not technically or tactically oriented, it could be utilised as an operational concept to help intrusions in cyber operations attain their strategic targets. In this paradigm, every stage—reconnaissance, early exploitation, creation of persistence, lateral manoeuvres, and collection-exfiltration-exploitation—offers the chance to infiltrate a target's system and spy on, influence, destroy, collect, or even launch an attack (Hooren, 2022).

In a web article Peter Suciuc claims that the 5 nations conducting the most cyber attacks are most It is no secret

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<sup>4</sup> William H McRaven.(1993). The Theory of Special Operations. Naval Post Graduate School. Monterey, California. Pg 2.

<sup>5</sup> William Dave Driver,Bruce. E. DeFeyer. (2008). The Theory of Unconventional Warfare: Win, Loose and Draw. Naval Post Graduate School. Monterey, California. Pg 2.

<sup>6</sup> Digital security involves protecting your online presence (data, identity, assets). At the same time, cyber security covers more ground, protecting entire networks, computer systems, and other digital components, and the data stored within from unauthorized access.

<sup>7</sup> Ibid.

that China, Russia, North Korea, Iran and United States. Unfortunately, the threat vector continues to get worse, and hacking is now a domain where a not-so-secret war is being waged (Suciu, 2022). According to the Associated Press, in 2011 an executive order was signed by President Obama to delineate the rules of engagement for military commanders in the context of cyber strikes. The executive order delineates the many domains of responsibility, particularly in instances where the acquisition of presidential authority is necessary for the execution of a cyber attack. (Kyzer, 2011). This further substantiates the dynamic nature of the military environment, wherein the domain of combat has expanded to include cyber operations, and the significance of cyber attacks as a growing aspect of military endeavours. The consensus among academics and defence officials is that cyber warfare will play a significant role in the future of the defence and intelligence community. It is widely recognised that the preservation of robust offensive and defensive capabilities is of utmost importance. (Kyzer, 2011).

Further, in the year 2011, a sequence of synchronised cyber-attacks was carried out by non-state actors from Syria who were aligned with the Assad regime. These assaults were aimed at opposition forces, both domestic and foreign, with the intention of bolstering the regime's stance in the Syrian civil conflict. These events served as a demonstration of the regime's support (Eidman, 2014). There is potential for establishing a cyber-militia by utilising the pre-existing knowledge and skills of individuals who are loyal to certain governments, organisations, or engaged in proxy cyber operations. For nearly two decades infamous hacker groups anonymous has operated worldwide. In the recent Russian invasion of Ukraine in February 2022 a Twitter account 'Anonymous' with 7.9 million followers declared a cyber war on Russia and its president Vladimir Putin (Huddleston, 2022). This clearly indicates that the use of 'hacktivist' has been used as a force multiplier to leverage existing cyber militias or proxy organisations to serve the needs unconventional cyber warfare.

An organised and systematic prolonged offensive cyber campaign through "spear phishing", deploying "botnet" to deny services and subverting the enemy supply chain by deploying civilian and trained military hackers in large numbers to attack "Internet, telecommunications networks, computer systems, as well as embedded processors and controllers and data" to deter and deny these services for military or other purposes is the suggested concept of cyber warfare. Also overloading the network by indiscriminately targeting many devices, services or users as possible. Further, swarming of conspiracies through all available

mediums of social media to spread fast obstructing law enforcement in real time will give impetus to an uncontrollable tempo of incidents of a 'viral insurgency' that will challenge law enforcement and cyber capabilities. Sensationalism is also another strategy to heighten recruitment and cooperation of other transnational militant social media groups.

In light of above, developing cyber capability and capacity will not only facilitate offensive operations but will also act as a strong deterrence. Incapacitating communications through physical and cyber means will also be crucial in unbalancing the leadership at all levels. In the meantime express R&D and breakthroughs in AI, quantum computing and 5G is very important as all cyber attacks in the future will likely be carried out by AI systems which will surpass any human and will be able to cause rapid multiple disruptions on a wider front than before. Parity of status or surpassing capability in this domain will be a decisive factor for smaller states as large numbers can be compensated by AI reducing the number of cyber bayonets' or operators. These are areas where clandestine support could be envisaged from other interested parties. This indicates that capacity building in this area among others should be a national priority.

## V: CHALLENGERS FOR SRI LANKA

With the increase of cyber threats and for defensive or unconventional offensive purposes the availability of qualified and skilled personnel in the field of information and communications technology cyber security domain is paramount to deter, protect and respond to cyber threats and attacks. According to the Centre for Strategic and International Studies by 2022, the global cyber security workforce shortage has been projected to reach upwards of 1.8 million unfilled positions (James Andrew Lewis, 2019). Given the global skills gap Sri Lanka requires to expend much resources towards capacity building in all cyber education and infrastructure related areas to combat cyber related threats. In Sri Lanka to date there is more to be done to address the shortage of cyber security experts. This needs to begin by reforming ICT education policies and opportunities in Sri Lanka. This is the foremost challenge.

### A. ICT Education in Sri Lanka.

After almost two decades of investments in ICT infrastructure and teacher training in Sri Lanka, ICT as a stand-alone subject to be tested through examinations is well-entrenched in the educational system. A total of 3,500 schools offer ICT as a subject at GCEO/L or 35% of public schools. Up to 5% of public schools offer ICT at GCE A/L. (Gamage, 2020).

1) *Student Population*: The total student population in the Island is 4,048,937. Out of the given student population of 4,048,937, a number of 652,331 students are within the ordinary level (O/L Cycle (Grd 10-11)) and a number of 426,964 students are in the advanced level (A/L Cycle (Grd 12-13)). (Statistics Branch of Ministry of Education of Sri Lanka, 2021).

2) *Government School statistics*: The government functions a total number of 10,146 schools in all 09 Provinces of Sri Lanka. The schools have been further categorised as National schools 396 in number and 9750 Provincial level schools. The Government schools have been further categorised into 4 types as given in the table:

Table 1: Schools by category.

Type	Category	No of Schools
1AB	Schools having Science Stream classes in Advanced Level	1,011
1C	Schools having Advanced Level classes Other than Science Stream	1,941
Type 2	School Having classes only up to Grade 11	3,226
Type 3	School Having classes up to Grade 5 or Grade 8	3,968

Table 2: Students by A/L stream.

Category	No of students	%
Bio Science	46,064	10.8
Physical Science	47,775	11.2
Arts	182,487	42.7
Commerce	92,695	21.7
Technology	46,354	10.9
Other	11,589	2.7
<b>Total</b>	<b>426,964</b>	

Table 3: ICT education opportunities.

Source of knowledge	Total (%)	Urban	Rural	Estate
Private training course	17.4	17.0	17.7	11.7
School/ University	60.7	59.2	60.9	74.4
Govt. training centers	6.9	5.8	7.2	5.8

In considering table 1, 2, and 3 above it is clear by table 3 that capacity for ICT education is made available to students and the majority get their ICT knowledge through the government education systems. However, table 2 indicates that there are more numbers of students in the arts and the commerce streams compared to the science and technology streams. The number of students being educated in the technology stream is 10.9 percent out of the total 426,964 advanced level student population in Sri Lanka resulting in a very marginal percentage of children being trained for higher education in the Science, Technology, Engineering and Medical disciplines (STEM).

This is further reflected in the number of university admissions. According to university grants commission total undergraduate admissions to the computer science stream in 2020 are 5,253 as a UGC intake and for external and distance education a number of 7,799 with 6,272 as postgraduate students totalling to only 19,324 enrolling to computer science education out of a total of 394,092 that enter university. (University Grants Commission, 2020). It is alarming to note that the graduate output for ICT in academic year 2020 is 1,175 from the UGC intake and 921 from post graduate institutes totalling only 2096 in an academic year (University Grants Commission, 2020).

#### B. Challenges to Digitizing Armed Forces in Sri Lanka.

The digitization of Armed Forces is a complex and challenging undertaking. It requires a significant investment of resources, time, and effort. There are a number of factors that can affect the feasibility of digitization, including the country's political, economic, and cultural context.

1). *Political and bureaucratic hurdles*: The Sri Lankan government is often slow to make decisions and implement new policies.

2). *Economic constraints*: Sri Lanka is a developing country with limited financial resources and this will be the major constraint. The cost of equipment, software, and satellite and other platforms will

3). *Cultural and societal factors*: There is some resistance to change such as lack of knowledge, lack of resources, leadership roles, employee resistance to change, negative mindset, and lack of motivation are some cultural barriers to change.

4). *Security concerns and potential misuse*: There are concerns that digitalization could be used to spy on citizens or to misuse military power.

5). *Technical Challenges*: Some of the technical challenges of digitizing army forces in Sri Lanka include (a) limited telecommunications infrastructure, which could make it

difficult to transmit and receive data, (b) increase the risk of cyberattacks and (c) Capacity building for training and education of military personnel.

6).*Budgetary Constraints*: The budgetary constraints of digitizing Armed Forces in Sri Lanka include, (a) the cost of new technologies and equipment, (b) the cost of training and education, (c) the cost of maintaining and upgrading digital systems.

#### IV. CONCLUSION

Unconventional/asymmetrical wars as a strategy will have effects at the strategic, operational and tactical levels forcing leaders to be simultaneously committed to internal and external security threats immaterial of where and how it is generated as all actions from recruitment, training, resourcing and funding will be covert and clandestine. The new type of adversary will fight in three domains which are the physical, psychological and the cyber or electronic domain in contrast to known conventional war. The strategy will be to employ a battalions of hackers to exploit the available social, financial, economic and security vulnerabilities. While guerrilla warfare with limited technology can outflank high-tech conventional forces on one hand and on the other hand a few individuals with latest technology and a rudimental terrorists cell can commit large scale regular forces for counter terrorism. The intention of covert and clandestine action is to influence conditions and create high casualty rates that will make your opposing force commit a large scale protracted military commitment. The armed forces strategic reforms will mainly be in the doctrinal domain and capacity building and equipping of troops specifically dedicated for unconventional/asymmetric warfare to fight a land battle while capacity building in the cyber domain as a force multiplier. Both, within the conceptual frame of relative superiority.

At the outset of the paper the author identified 'public will' as an instrument of power. Here public consensus and support is needed for three aspects; for recruitment, for necessary economic and military industrial mobilisation and in the event there is to be a resistance type of war that has to be waged para-military forces and public mobilisation becomes vital and decisive. To effectively address the conventional superiority of forces one must develop strategies to frustrate the adversary in the least possible cost to time and resources.

In conclusion developing Sri Lanka's military and cyber capacity and capability will solely depend on the economic

factor. The economic disparity with other developing countries dictates that "*Time*" is what Sri Lanka needs to achieve military, cyber, nuclear (for peaceful purposes) and space capability. This is a long term idealist's reality.

#### V. RECOMMENDATIONS

The following are broadly recommended:

- 1). Re-organise Armed Forces to suit unconventional warfare concepts.
- 2). Develop doctrinal concepts from own war fighting experiences and from lessons learnt from LTTE strategy and tactics.
- 3). Establish Combat Service Support doctrine.
- 4). *Digitizing Armed Forces*. Digitizing Armed Forces is a complex and challenging undertaking, which is essential for Sri Lanka's security.
  - i. Establish digital platforms.
  - ii. Secure strong political leadership to effect digital transformation.
  - iii. Develop a clear vision for digitization of the Armed Forces.
  - iv. Address technical challenges.
  - v. Managing budgetary constraints through phased out development.
  - vi. Build public support through awareness campaigns and consensus.
  - vii. Strengthening judicial oversight and introducing new legislature for cyber protection / individual privacy
  - viii. Special recruitment policy for ICT professional in to the Armed Forces on a market value pay scale.

REFERENCES

- Bhat, M. (2022, 03 30). *South Asia Monitor* . Retrieved 07 03, 2023, from Big-power rivalry is becoming more intense in the Indian Ocean Region: <https://www.southasiamonitor.org/perspective/big-power-rivalry-becoming-more-intense-indian-ocean-region>
- Bulathgama, T. (2023, 08 10). *Cyber Terrorism an Emerging Threat to Sri Lanka's National Security*. Retrieved 08 10, 2023, from [https://www.defence.lk/upload/doc/Thusitha\\_Bulathgama\\_Cyber\\_Terrorism\\_an\\_Emerging\\_Threat\\_to.pdf](https://www.defence.lk/upload/doc/Thusitha_Bulathgama_Cyber_Terrorism_an_Emerging_Threat_to.pdf): [https://www.defence.lk/upload/doc/Thusitha\\_Bulathgama\\_Cyber\\_Terrorism\\_an\\_Emerging\\_Threat\\_to.pdf](https://www.defence.lk/upload/doc/Thusitha_Bulathgama_Cyber_Terrorism_an_Emerging_Threat_to.pdf)
- Crisis 24 Sri Lanka Country Report*. (2023, 06 05). Retrieved 06 29, 2023, from Crisis 24: <https://crisis24.garda.com/insights-intelligence/intelligence/country-reports/sri-lanka>
- Department of Censors and Statistics . (2021, 12 31). *Annual Buletin Computer Literacy-2021*. Retrieved 8 30, 2023, from Department of Census and Statistics: <http://www.statistics.gov.lk/Resource/en/ComputerLiteracy/Bulletins/AnnualBuletinComputerLiteracy-2021.pdf>
- Dias, G. (2022, 12 15). *Fortifying National Security in a time of Crisis*. Retrieved 06 29, 2023, from Ministry of Defence: [https://www.defence.lk/Article/view\\_article/26954](https://www.defence.lk/Article/view_article/26954)
- Dobberstein, L. (2023, 5 23). *It's 2023 and Sri Lanka doesn't have a cyber security authority*. Retrieved 8 28, 2023, from The Register: [https://www.theregister.com/2023/05/26/sri\\_lanka\\_cybersecurity\\_authority/#:~:text=Sri%20Lanka%20ranks%2081st%20out,the%20National%20Cyber%20Security%20Index](https://www.theregister.com/2023/05/26/sri_lanka_cybersecurity_authority/#:~:text=Sri%20Lanka%20ranks%2081st%20out,the%20National%20Cyber%20Security%20Index)
- ECONOMYNEXT. (2023, 7 20). *Sri Lanka to introduce long-delayed cybersecurity legislation*. Retrieved 8 28, 2023, from ECONOMYNEXT: <https://economynext.com/sri-lanka-to-introduce-long-delayed-cybersecurity-legislation-in-2023-official-124009/>
- Eidman, C. R. (2014, 6). *Unconventional cyber warfare: cyber opportunities in unconventional warfare* . Retrieved 09 01, 2023, from Naval Postgraduate School Monterey California : <https://core.ac.uk/download/pdf/36734834.pdf>
- Gamage, S. (2020, 11). *ICT in Education in Sri Lanka*. Retrieved 09 01, 2023, from Research Gate : [https://www.researchgate.net/publication/343962901\\_ICT\\_in\\_Education\\_in\\_Sri\\_Lanka](https://www.researchgate.net/publication/343962901_ICT_in_Education_in_Sri_Lanka)
- Guy Schleffer, B. M. (2021). *The Political Effects of Social Media Platforms on Different Regime Types*. Retrieved 8 26, 2023, from Texas NAtional Security Review : <https://tnsr.org/2021/07/the-political-effects-of-social-media-platforms-on-different-regime-types/>
- Hooren, J. v. (2022, 12). *The Integration of Special Forces in cyber operations* . Retrieved 9 1, 2023, from Netherlands Ministry of Defence : <https://nps.edu/documents/110773463/135759179/The+Integration+of+Special+Forces+in+Cyber+Operations.pdf/afb3a1f-876d-e174-7294-4a8b5795fb77?t=1652136095474>
- Huddleston, T. (2022, 3 25). *What is Anonymous? How the infamous 'hacktivist' group went from 4chan trolling to launching cyberattacks on Russia*. Retrieved 9 03, 2023, from CNBC: <https://www.cnn.com/2022/03/25/what-is-anonymous-the-group-went-from-4chan-to-cyberattacks-on-russia.html>
- James Andrew Lewis, W. C. (2019, 01 29). *The Cybersecurity Workforce Gap*. Retrieved 8 30, 2023, from Center for Strategic and International Studies : <https://www.csis.org/analysis/cybersecurity-workforce-gap>
- Jayasuriya, R. (2017). The Influence of Global Islam Radicalisation to Sri Lanka. *International Research Conferance Articles KDU IRC 2017* (p. 8). Colombo: General Sir John Kotalawela Defense University .
- Jayasuriya, R. (2023). Transnational Organised Crime and its impact on Sri Lanka. In S. D. Bhagya Senaratne, “*Sri Lanka’s Post Independence Defence Policy: Past Present and Future Projections*”,. Colombo: General Sir John Kotalawel Defense University.
- Kyzer, L. (2011, 6 23). *Cyber War Rules of Engagement Being Crafted*. Retrieved 9 3, 2023, from <https://news.clearancejobs.com/2011/06/23/cyber-war-rules-of-engagement-being-crafted/>
- Lim, A. (2023, 8 22). *An Executive View of Key Cybersecurity Trends and Challenges in 2023*. Retrieved 8 28, 2023, from ISACA: <https://www.isaca.org/resources/news-and-trends/industry-news/2023/an-executive-view-of-key-cybersecurity-trends-and-challenges-in-2023>
- Qiao Liang, W. X. (2007). *Unrestricted Warfare*. Dehra Dun: Natraja Publishers.
- Roles and Responsibilities of Cyber Security Professionals*. (2023, 08 01). Retrieved 08 26, 2023, from

Simplilearn : <https://www.simplilearn.com/it-security-professionals-key-roles-responsibilities-article>

AUTHOR BIOGRAPHY

Senaratne, B. (2010) Dynamics in Cybersecurity: Challenges to Sri Lanka's security . *General Sir John Kotelawala Defence University International Research Conference* (p. 7). Colombo : General Sir John Kotelawala defence university.

Sri Lanka Export Development Board . (2017, 5 12). *ICT Education in Sri Lanka* . Retrieved 8 30, 2023, from Export Development Board : <https://www.srilankabusiness.com/blog/ict-education-in-sri-lanka.html>

Statistics Branch of Ministry of Education of Sri Lanka. (2021, 12 31). *Annual School Census of Sri Lanka summary report 2021*. Retrieved 8 30, 2023, from Ministry of Education : [https://moe.gov.lk/wp-content/uploads/2023/02/School\\_Census-2021\\_Summary-Tables-Final-Report1.pdf](https://moe.gov.lk/wp-content/uploads/2023/02/School_Census-2021_Summary-Tables-Final-Report1.pdf)

Stepan, A. (2015). India, Sri Lanka, and the Majoritarian Danger. *Journal of Democracy*. 26 (01).

Suciu, P. (2022, 10 17). *The Not-So Secret Cyber War: 5 Nations Conducting the Most Cyberattacks*. Retrieved 9 3, 2023, from <https://news.clearancejobs.com/2022/10/17/the-not-so-secret-cyber-war-5-nations-conducting-the-most-cyberattacks/>

Threat Intelligence. (2023, 03 16). *Threat and Risk Assessment: What is it, Guides and Benefits*. Retrieved 08 11, 2023, from Threat Intelligence: <https://www.threatintelligence.com/blog/threat-and-risk-assessment>

University Grants Commission . (2020). *Sri Lanka University Statistics* . Retrieved 09 01, 2023, from University Grants Commission : [https://www.ugc.ac.lk/downloads/statistics/stat\\_2020/Chapter%203.pdf](https://www.ugc.ac.lk/downloads/statistics/stat_2020/Chapter%203.pdf)



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