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Editor's Note

The *Journal of Contemporary Studies* is a flagship publication of the Faculty of Contemporary Studies (FCS), National Defence University (NDU), Islamabad. The journal offers its readers in academia, government, and the policymaking world in-depth and scholarly analyses, diverse policy perspectives on important contemporary issues, and on-going debates in the areas of national and international security, public policy and the broader field of world politics.

This journal issue comprises seven articles and four book reviews providing valuable primary information on significant national and international developments. The first article, *Use of Social Media for Amplification of Extremist Narratives in Pakistan- A Case Study of TLP by* Muhammad Faizan Fakhar & Shiraz Shaikh examines the case study of Tehreek-i-Labbaik Pakistan to reveal how YouTube and X have become echo chambers for radical narratives, reaching millions. By linking online surges with real-world events, the study exposes the algorithmic blind spots fueling dangerous influence.

The second article, *Examining the Intersection of Climate Change and Post-Colonial at COP27: A Discourse Analysis by* Zarmina Khan dissects COP27 discourse to expose how global powers subtly maintain dominance, sidelining the Global South's voice. By applying Postcolonial Critical Discourse Analysis, it calls for a true reckoning with history to build just climate futures.

The third article, *Charting the Course: Pakistan's Naval Modernisation for a Secure Maritime Future by* Muhammad Hammad Waleed & Shaheer Ahmad is anchored in comparative maritime conflicts and emerging technologies, and explores how naval recalibration—via Chinese platforms and unmanned systems—signals a recalibrated deterrence logic. It argues that Pakistan's evolving maritime doctrine reflects not just regional insecurities but an ambition to shape its maritime destiny through innovation and partnerships.

The fourth article, *India's Naval Modernization In The Indian Ocean Region And Its Implications For Pakistan: Analyzing The Commissioning of The New Naval Base, Ins Jatayu* by Mahwash Anwar & Dr. Irfan Hussain Qaisrani interrogates the strategic implications for Pakistan, a security-seeking actor navigating asymmetric power realities. With a focus on INS Jatayu and evolving Indo-Maldivian ties, it offers a critical lens on maritime securitization and strategic recalibration.

The fifth article, *Assesing Force Comparison and Techonological Evaluation of the Russian Military Limitations In Initial Phase of Russia – Ukraine War* by Ahmad Ibrahim & Dr Sehrish Qayyum explores Russia's initial setbacks in Ukraine reveal a gap between perceived military dominance and operational reality. Through the lens of the Revolution in Military Affairs, this study analyzes technological shortcomings and strategic miscalculations amid early war developments. It offers vital lessons on modern warfare for militaries still reliant on legacy systems.

The sixth article, *The New Side of International Conflicts: The Rise of Space Technologies* by Dr Neslihan Topcu Alparslan traces the evolution of military conflict through an interdisciplinary lens, highlighting how space assets reshape intelligence, deterrence, and security architectures. It critically unpacks the double-edged nature of space militarization, urging robust governance to manage its escalating risks.

The last article, *Artificial Intelligence and its Impact on Military Decision-Making in Future Warfare* by Maheen Shafeeq analyzes human–machine dynamics in contemporary warfare, highlighting the evolving distribution of autonomy and control. It warns of instability from asymmetric AI development and underscores the need for calibrated oversight amid rising global militarization of AI.

I extend my sincere appreciation to the contributors, peer-reviewers, and the editorial team for their diligent efforts and varying perspectives in shaping this journal. This collective work enriches the discourse on both national and international levels. As we navigate the complexities of interdisciplinary dialogue, we recognize the significance of fostering connections across fields. This is a humble offering to add to the current discourse.

Editor
Dr Khuram Iqbal

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BOOK REVIEWS

USE OF SOCIAL MEDIA FOR AMPLIFICATION OF EXTREMIST NARRATIVES IN PAKISTAN - A CASE STUDY OF TLP

Muhammad Faizan Fakhar[*] and Shiraz Shaikh[**]

Abstract

This paper addresses the significance of social media platforms, specifically Youtube and X, in promoting and amplifying extremist narratives in Pakistan. A case study of Tehreek-i-Labbaik Pakistan (TLP) is undertaken to understand how social media platforms can be employed to propagate and amplify extremist narratives. The paper presents a brief historical study of the origins and evolution of TLP. Analytics of four official YouTube accounts associated with TLP are studied to gauge the audience reach of TLP's content. Moreover, archival data of multiple trends on X (formerly twitter) promoted by TLP is also examined. The timelines of these trends are also studied to find a correlation between these trends and on ground events related to TLP. This study finds out that as of Oct 2024 the cumulative subscriber count of the four YouTube channels run by TLP is 1.37 million, while video views count is 172.43 million. This indicates that the actual extent of TLP's audience reach must be much higher if TLP's fan pages are also incorporated. A temporal analysis of archival twitter trends data related to TLP reveals that TLP's online activity closely coincides with key events involving the group at the time. The paper also examines the role of engagement algorithms and weak content moderation policies of social media platforms in amplification of extremist content online.

Keywords: *Social Media, Tehreek-i-Labbaik Pakistan (TLP), Extremism, Regulation, Algorithms*

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Introduction

Extremism is a broad and subjective term and does not have a fixed definition.[1] However, in political and religious contexts, extremism is generally defined as ideologies, activities, and narratives that are outside of normative and acceptable social behavior.[2] In case of Pakistan, extremist narratives could be regarded as those ideologies or belief systems that compete against state's ideology and rule of law.[3] Such narratives have existed in Pakistan which have even culminated in armed sectarian, ethnic and religious conflicts at times. For example, extremist narratives based on ethnic identities played a key role in the separation of East Pakistan and continue to challenge the national security of Pakistan.[4] Similarly, on multiple occasions, extremist narratives based on sectarian identities have led to Shia-Sunni conflicts in different parts of the country.[5] With the advent of modern tools of communications, especially social media, the dissemination of such narratives has now become relatively easier and precise.

With the onset of social media platforms, access to information and its dissemination has become easier and quicker. In Pakistan, the number of social media users has grown exponentially over the years. In January 2024, the number of internet users in Pakistan stood at 111.0 million (45.7 percent of the total population), while 71.70 million (29.5 percent of total population) are active on social media platforms.[6] The number of internet users rose 24 million, equal to an almost 24 percent, in last one year.[7] However, growing social media use has also led to an increase in the circulation and dissemination of content which may be driven by a particular agenda. For example, a user survey conducted in 25 countries including Pakistan indicated that 44 percent of the respondents admitted to be influenced by fake news online.[8] Fake or inauthentic news plays a

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1 Andrej Sotlar, Some Problems with a Definition and Perception of Extremism within a Society, December 2004, https://www.ojp.gov/pdffiles1/nij/Mesko/208033.pdf.

2 Muḥammad Rana, Defining Terrorism in Pakistan: The Supreme Court's Judgment - a Way Forward for Parliament (2020), 3-4.

3 Dr Minhas Majeed Khan, "Countering Violent Extremism in Pakistan: An Appraisal of Pakistan's CVE Initiatives," *Strategic Studies* 35, no. 4 (2015): 23-26, https://www.issi.org.pk/wpcontent/uploads/2016/07/SS_No_4_2015_Dr_Minhas.pdf.

4 Richard Sisson and Leo E. Rose, *War and Secession: Pakistan, India, and the Creation of Bangladesh* (Berkeley: University of California Press, 1990), 8–21.

5 International Crisis Group, "Pakistan: Sectarian Violence," Crisis Group Asia Report No. 327, September 2022, https://www.crisisgroup.org/sites/

6 "Digital 2024: Pakistan," DataReportal – Global Digital Insights, last modified February 16, 2022, https://datareportal.com/reports/digital-2022-pakistan.

7 "Digital 2024: Pakistan," DataReportal.

8 CIGI and IPSOS, "Internet Security & Trust," Internet Society, accessed November 28, 2022, https://www.cigionline.org/sites/default/files/

key role in shaping partisan content, which has infiltrated the digital space in the modern world and Pakistan is no exception to this. In order to gauge the degree to which social media platforms are used to promote partisan and potentially extremist content in Pakistan, constantly evolving online presence of Tehreek-e Labbaik Pakistan (TLP), a politico-religious outfit of Pakistan, offers a suitable case study.

The origins of TLP can be traced back to the formation of an alliance between different Barelvi-led ideological religious groups known as Tehreek-e-Labbaik Ya Rasoolallah (TLYR).[9] The four Barelvi groups within TLYR included Tehreek-e-Sirat-e Mustaqeem led by Asraf Jalali, Sunni Tehrik led by Sarwat Ejaz Qadri, Aalmi Tanzeem Ahl-e-Sunnat led by Pir Afzal Qadri, and Anjuman-e-Fidayan-e-Khatam-e-Nabuwwat headed by Allama Khadim Hussain Rizvi.[10] However, internal rifts led to the dismemberment of TLYR and Allama Khadim Rizvi came out as a prominent politico-religious leader of a new brand of Barelvi activism under the banner of TLP.[11] Over the past few years, TLP has risen as a mass politico-religious organization with a considerable number of followers. It has repeatedly staged sit-ins and protests against multiple governments on different occasions.[12] TLP has generally used two broad issues to build its narrative: Blasphemy and Islamophobia. As a result of these narratives, TLP has been able to promote extremist viewpoints inside the country and hate against the West. TLP has led violent and non-violent agitations against the elected governments on multiple occasions since its rise in 2017 till date.[13] On each occasion, TLP was able to extract multiple concessions from the government and state institutions. Social media is one of the major tools used by TLP for propagating narrative and increasing its audience through targeted trends, posts and videos. Therefore, TLP offers an important case study for analyzing prevalent tactics of organized social media use aimed at amplifying political and extremist agendas in Pakistan. Analytics of four official YouTube accounts associated with TLP are studied to gauge the audience reach of TLP's content. Moreover, archival data of multiple trends on X promoted by TLP is also examined. The timelines of these trends are also studied to find a correlation between these trends and on ground events related to TLP.

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9 Ihasan Yilmaz and Kainat Shakil, "Religious Populism and Vigilantism: The Case of the Tehreek-e-Labbaik Pakistan," *Populism and Politics*, January 23, 2022. https://doi.org/10.55271/pp0001.

10 Roohan Ahmed, "Tehreek-e-Labbaik Pakistan.

11 Ibid.

12 Roohan Ahmed, "Tehreek-e-Labbaik Pakistan: An emerging right-wing threat to Pakistan's democracy," South Asia Source, *Atlantic Council*, January 15, 2022, https://www.atlanticcouncil.org/blogs/southasiasource

13 Farrukh K. Pitafi, "How TLP Came into Being?," The Express Tribune, last modified November 19, 2021.

Based on this understanding, evolving socio-political impacts of weakly moderated digital space in Pakistan are also examined.

Methodology

The study employs a mixed-methods approach by utilizing both qualitative and quantitative data. The qualitative analysis includes the study of on-ground political movements and protests staged by TLP and the narratives they use to promote their political activities. The quantitative analysis is undertaken by examining four official YouTube accounts associated with TLP along with multiple trends on X promoted by TLP that closely coincide with on-ground events related to TLP. Analysis of YouTube channels is carried out through the public database of the tool *Social Blade,* which provides insights and analytics for any content creator or YouTube channel. On the other hand, most of the TLP accounts on X have now been suspended; however, archival data on Twitter trends are accessed through the website *Twitter Trending Archives*. Analysis of archival data of Twitter trends is important to understand the temporal digital activity of TLP, which closely correlates with key events involving the group at the time. The collected data is also triangulated to assess the complementarity of the increased social media activity with the on-ground activities, hence allowing for better understanding of how social media could be used to amplify certain potentially extremist narratives.

However, the study faced two major limitations. Firstly, archival data of X trends prior to November 2018 was not accessible, which reduced the ability to analyze the Twitter activity of TLP since the time its digital footprint started to grow. Secondly, TLP's activity on X and some other platforms was censored from 2022 onwards, with many of their accounts either suspended or removed from the platform. To compensate for the second limitation, the study relies on qualitative data from 2023 and 2024 to analyze the continued presence of TLP in socio-political domains. It is also important to note that TLP's use of social media is not limited to only YouTube and X and in fact, the group uses a wide range of other platforms including Dailymotion, Vimeo, WhatsApp, Telegraph, Tik Tok, and Facebook. However, the reach of some of these platforms is low compared to YouTube and X. Moreover, access to user data for Facebook and encrypted data of instant messaging apps including WhatsApp and Telegram is difficult. Therefore, the scope of this study has been limited to YouTube and X.

Literature Review

The role of the internet in spreading extremist narratives across the globe is becoming profound. Social media platforms are increasingly becoming a tool for the propagation of extremist narratives. Social media was initially conceived as a digital ecosystem that would enable its users

to create and share their content with a wider audience.[14] However, this, in turn, paved the way for the creation and dissemination of specific, tailored and agenda driven content, transforming social media platforms into a tool for political campaigning.[15] With time, social media platforms also became a tool for the propagation and promotion of extremist and hateful content .[16] Fake news, propaganda, radicalization and political violence have now become rampant across social media platforms.[17]

The internet could serve as a key platform for radicalization as it has become a "key source of information, communication and propaganda for their extremist beliefs." It also serves as the space for virtual interaction between like-minded people, which could often confirm their existing extremist beliefs. Many extremists do not consider internet as an alternative to in-person or face-to-face communication but rather a complementary avenue which helps engage with a wider network of audiences.[18] These findings indicate that internet, or more specifically social media platforms, could indeed serve as a tool for propagation and amplification of extremism. However, there is a need to study how these platforms are being used for such purposes in the context of Pakistan.

Mozilla Foundation conducted a research study in 2021 by the name of *YouTube Regrets* to understand how YouTube's recommendation algorithm works and what type of content it pushes. It is a crowd sourced study that involved 37,380 users from around 91 countries.[19] The report concluded that around 71 percent of the content containing violence, misinformation, and hate speech was recommended by the YouTube algorithm.[20] The report also revealed that the rate of such content was 60 percent higher in non-English speaking countries.[21] This offers valuable

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14 Terry Daugherty, Matthew S. Eastin, and Laura Bright, "Exploring Consumer Motivations for Creating User-Generated Content," *Journal of Interactive Advertising* 8, no.2, 2008. DOI: https://doi.org/10.1080/15252019.2008.10722139

15 Jenny Bronstein and Noa Aharony, "Personal and Political Elements of the use of Social Networking Sites," *Information Research* 20, no. 1, 2015.

16 Phyllis B. Gerstenfeld, Diana R. Grant, and Chau-Pu Chiang, "Hate Online: A Content Analysis of Extremist Internet Sites," *Analyses of Social Issues and Public Policy* 3, no. 1, 2003. DOI: https://doi.org/10.1111/j.1530-2415.2003.00013.x

17 Keipi et. al., "Exposure to Online Hate Material and Subjective Well-being: A Comparative Study of American and Finnish Youth," *Online Information Review* 42, no. 1, 2018.

18 Gill et. al., "Terrorist Use of the Internet by the Numbers: Quantifying Behaviors, Patterns, and Processes," *Criminology & Public Policy* 16, no. 1, 2017. DOI: https://doi.org/10.1111/1745-9133.12249.

19 Mozilla Foundation, *YouTube Regrets: A Crowdsourced Investigation into YouTube's Recommendation Algorithm*, Mozilla Foundation, 2019.

20 Ibid

21 Ibid.

insights into the challenges posed by the use of social media platforms by extremist groups for the promotion of their narratives. This challenge becomes compounded in a country like Pakistan, where content moderation of social media platforms might be comparatively difficult due to language barriers and low digital literacy. Moreover, it also shows that the reach of hateful content might be significantly higher than that of other content due to the role of the recommendation algorithms of different social media platforms.

Pakistan faces a similar issue of social media abuse by extremist actors. With the abuse of social media platforms, the likelihood of violence and radicalization have increased across the Pakistani political arena.[22] Akram offers insights into the religio-political use of social media by PTI and TLP to promote their political ideologies and agenda.[23] Both PTI and TLP employed social media platforms to promote their narrative and organize mass protests, sometimes even violent. Their social media campaigns were significantly directed towards youth, which the study triangulates by increasing violent behaviours exhibited by the youth during the protests and marches of both these parties. The unabated propaganda fed through these platforms was specifically used for election campaigns by both parties while defaming their political opponents. The common themes outlined by the study in the misuse of social media platforms by both the parties included calls for change to create a state like Madina, history of violent protests during their evolution, and only their respective leaders being able to bring all the required changes. These social media campaigns were also significant in creating radical forces within the youth, who considered itself at the margins of political landscape.

Paracha (2020) explores the evolution of Barelvism- the biggest sectarian doctrine of Pakistan in terms of followers. Paracha also discusses the relationship of Sufism with Barelvism and how the latter has adopted some of the key symbols and slogans of Sufism over the years. The book also investigates in length the Barelvi and Deobandi's ways of life, which have played a crucial role shaping in people's lives in Pakistan. The book also narrates the relationship between the country, people, state, and sub-sects and the modification of this relationship over the years. In order to contextualize the evolution and rise of TLP, Paracha gives a detailed historical account of its predecessor groups, including Jamiat Ulema-e-

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22 Muhammad Akbar and Aasima Safdar, "Politics of Hate and Social Media: Thematic Analysis of Political Hate Discourses on Facebook," *Global Social Science Review* 8, no. 2, 2023. DOI: https://doi.org/10.31703/gssr.2023(VIII-II)

23 Muhammad Akram, Adeela Arshad-Ayaz, Muhammad Ayaz Naseem, "A Comparative Study of Social Media's Religiopolitical Use by Pakistan Tehrik-e-Insaf (PTI) and Tehrik-e-Labbaik Pakistan (TLP)," *Canadian Social Science* 20, no.1, 2024. DOI: 10.3968/13292

Pakistan (JUP), Sunni Tehreek (ST), All India Sunni Conference (AISC), and Jamaat-e-Ahle Sunnat. Paracha states that while Barelvism has always been the most followed sect of Islam in Pakistan, it has never been defined as a cohesive and unified doctrine.

Paracha's work offers insights into the events that have led to the rise and popularity of TLP in Pakistan. It is also helpful in recognizing the socio-political patterns associated with Barelvism in the region. Paracha's work is also useful in understanding the historical evolution of Barelvi groups in the country that later became predecessors of TLP. Such an understanding is important to identify the narratives used by TLP for political mobilization.

Basit, in his paper, explores the evolution and political activism of the TLP as a religio-political group in the country. Basit explains how TLP has transformed from a protest movement to a political party while retaining its character as a movement. Basit notes that the structure of TLP is hybrid to such an extent that it becomes difficult to differentiate the religious movement from the political party. Basit also observes that TLP has been successful in asserting itself in Pakistan's political-religious arena over the last few years. TLP has been able to rise in its stature mainly by championing the cause of *Khatm-e-Nabuwat* (finality of Muhammad's prophethood) and *Namoos-e-Risalat* (honor of the Prophet Muhammad). Basit also discusses how TLP utilizes the tactics of protests and agitation to shape its political agenda. Moreover, TLP also relies on its political structures to demand or halt polices that seem detrimental to its interests. Basit believes that TLP has emerged as a by-product of post-9/11 developments in the religious and political landscape of Pakistan. Moreover, shifting trends of state patronage towards religious groups has also played a key role in the rise of TLP. Basit's work illustrates that TLP relies mainly on its protest movement to gather support, therefore, its activity on social media is important to understand the role of social media platforms in the promotion of its narratives.[24]

In their report, Waldman and Verga attempt to offer measures for countering violent extremist activities on social media and the internet. The report defines violent extremism as "destructive actions or support for such actions undertaken by groups or individuals formally or informally affiliated with them, in the name of "extreme" political or religious ideals."[25] The report explains that propagandist material is disseminated by violent extremist groups on social media in order to get new recruits. It further elaborates that extremist organizations gather

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[24] Abdul Basit (2020) Barelvi Political Activism and Religious Mobilization in Pakistan: The Case of Tehreek-e-Labaik Pakistan (TLP), Politics, Religion & Ideology, 21:3, 374-389, DOI: 10.1080/21567689.2020.1812395

[25] Suzanne Waldman and Simona Verga, *Countering Violent Extremism: A Canadian Perspective*, Defence Research and Development Canada, 2016, https://cradpdf.drdc-rddc.gc.ca/PDFS/unc262/p805091_A1b.pdf.

recruits on social media through online exposure to and internalization of extremist ideologies. Moreover, the report states that various extremist groups organize their activities on social media as it offers a simple and free tool for gaining reach to a huge audience over large areas. In the context of TLP's use of social media, it is important to understand how it has leveraged different social media platforms to not only convey its narrative to a larger audience but also to organize its rallies and protests in the country on multiple occasions. The report also offers viable measures for countering violent extremists online that could offer effective lessons in the context of Pakistan as well.

The following section traces the origin and evolution of Barelvi groups, especially TLP, from a religious group to a major religio-political force in the country. The section also discusses how TLP employs social media to further its political ideology within society.

Origins and Evolution of TLP

TLP is a far-right Islamist political party of Pakistan with its ideological roots in the Barelvi sect of Sunni Islam. Barelvism has always been the sect of majority of Muslims in Pakistan and historically there have been many different barelvi groups in Pakistan including Jamiat Ulema-e-Pakistan (JUP), Sunni Tehreek (ST), and Jamaat e Ahle Sunnat. However, these groups have not been able to unite to form a significant political force in the country until the rise of Tehreek-e-Labbaik Ya Rasoolallah (TLYR).[26] TLYR was a coalition of prominent Barelvi groups of the country, and it later became the predecessor of TLP. This rise of the Barelvi activism, especially the rise of TLP, began with the case of Aasia Bibi- a Christian woman awaiting death row for Blasphemy- and Salman Taseer, former Governor Punjab.[27] A session's court in Punjab's Nankana Sahib awarded death penalty to Aasia Bibi over the charges of Blasphemy; however, Salman Taseer met Asia and criticized the country's Blasphemy laws for being used for malignant purposes. This led to a series of condemnations, demands for Taseer's removal from the post of Governor and even Taseer being labeled an apostate by the Aalmi Jamaat Ahle Sunnat through a fatwa.[28] On January 4, 2011, Taseer was killed by his own bodyguard, Mumtaz Qadri. Initial investigation of Mumtaz Qadri's case revealed his connections to Barelvi extremist narratives. Mumtaz Qadri himself confessed that he was encouraged to murder Taseer by two

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26 Ihasan Yilmaz and Kainat Shakil, "Religious Populism and Vigilantism: The Case of the Tehreek-e-Labbaik Pakistan," *Populism and Politics*, January 23, 2022. https://doi.org/10.55271/pp0001

27 Sushant Sareen, "Tehrik-E-Labbaik Pakistan: The New Face of Barelvi Activism," *Occasional Papers*, Observer Research Foundation (ORF), September 15, 2021, https://www.orfonline.org/research/.

28 Ibid.

Barelvi clerics who deemed Taseer as *Wajib ul Qatl* (deserving to be killed) for his comments against the Blasphemy laws.[29]

Mumtaz Qadri became popular amongst Barelvi organisations of the country, with scores of lawyers volunteering to fight his case. At one point, more than 90 lawyers were present in the courtroom to defend Mumtaz Qadri.[30] This trial served as the beginning of the extremist political chapter in the history of Barelvism in Pakistan. A movement started as *Thereek Rihai Mumtaz Qadri* (Movement to Free Mumtaz Qadri), which later became an amalgamation of several Barelvi-led ideological, religious groups known as Tehreek-e-Labbaik Ya Rasoolallah (TLYR).[31] The four Barelvi groups within TLYR included Tehreek-e-Sirat-e Mustaqeem, Sunni Tehrik, Aalmi Tanzeem Ahl-e-Sunnat, and Anjuman-e-Fidayan-e-Khatam-e-Nabuwwat.[32] At this point, a new leader emerged as the face of TLYR, Allama Khadim Hussain Rizvi. He toured the country to gain support for his movement and became the driving force of the Barelvi politics inside the country.[33] However, the internal fragmentations led to the dismemberment of TLYR, with Khadim Rizvi coming out as the sole leader of this new brand of Barelvi activism under the banner of TLP.[34]

TLP showed its street power for the first time as a separate entity in 2017 by blocking Faizabad, an entry point to the capital, Islamabad. Thousands of people staged a sit-in at Faizabad led by Allama Khadim Hussain Rizvi to protest against a proposed change to the law of oath related to the finality of the Prophethood.[35] The newly emerged party was able to stage a sit-in for 21 days, completely halting the life in the twin cities. The show of force by TLP forced the government to not only repeal the changes made to the oath declaration but also remove the federal law minister, Zahid Hamid. A deal was brokered between the government and TLP, which saw TLP protestors dispersing.[36] While their street power grew exponentially, their social media presence also rose simultaneously. The following sections will look into the TLP's social media activity from 2018 onwards.

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29 Amir Mir, "Police unable to arrest or interrogate the two mullahs who encouraged Mumtaz Qadri to kill Governor Taseer," *Pakistan Blogzinw*, January 24, 2011, https://pakistanblogzine.wordpress.com/2011/01/24/

30 Roohan Ahmed, "Tehreek-e-Labbaik Pakistan.

31 Ihasan Yilmaz and Kainat Shakil, "Religious Populism and Vigilantism: The Case of the Tehreek-e-Labbaik Pakistan," *Populism and Politics*, January 23, 2022. https://doi.org/10.55271/pp0001

32 Roohan Ahmed, "Tehreek-e-Labbaik Pakistan. "

33 Sushant Sareen, "Tehrik-E-Labbaik Pakistan: The New Face of Barelvi Activism."

34 Roohan Ahmed, "Tehreek-e-Labbaik Pakistan. "

35 Asad Hashim, "Anti-blasphemy protesters block entrance to Islamabad," November 13, 2017, https://www.aljazeera.com/news/2017/

36 Amir Waseem and Munawer Azeem, "Faizabad sit-in ends as army brokers deal," November 29, 2017.

TLP's Social Media Use

TLP has regularly used various social media platforms including Facebook, Twitter, WhatsApp, Vimeo, Dailymotion, and YouTube. This could be observed by the official channels associated with TLP on YouTube, which also include links to its channels on Dailymotion, Vimeo, along with WhatsApp contact details. TLP regularly uses these platforms to disseminate its ideological, social, and political messages as evident by its content across different social media platforms. Moreover, since TLP has been involved in staging mass demonstrations and protests against sitting governments of the time, its social media activity has been crucial in coordinating logistics, communicating its demands and to organize and motivate its supporters across the country for its cause.[37]

In order to critically analyze the extent to which TLP has been active on social media platforms during some of its key political movements and protests, this section examines TLP's use of YouTube and X. It is important to note that TLP's use of social media platforms is not limited to just YouTube and X and most of the TLP associated accounts on X and Facebook have now been suspended. Nonetheless, TLP related channels on YouTube and groups on instant messaging apps including WhatsApp and Telegram are still active. However, access to encrypted data related to TLP activity on instant messaging apps including WhatsApp and Telegram is difficult. Therefore, this study mainly relies on the analysis of the YouTube channels and X. Analysis of YouTube channels is carried out through Social Blade. On the other hand, as stated earlier, the TLP accounts on X have now been suspended, however, archival data on Twitter trends can be accessed through *Twitter Trending Archives*.

YouTube

Over the years, TLP's use of social media platforms became sophisticated and elaborate.[38] The 2018 election results highlighted the greater engagement of TLP with the masses around the country. During this time, TLP employed social media platforms to promote its political campaigns in order to garner votes and increase its vote bank. As a result, in the 2018 elections, TLP was able to secure 2.2 million votes, making it the fourth-largest party in terms of vote count.[39] Famous for being an effective orator, Khadim Hussain Rizvi's main medium of communication became TLP's YouTube channels. *Table 1* shows statistics related to four

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37 Sushant Sareen, "Tehrik-E-Labbaik Pakistan: The New Face of Barelvi Activism."

38 Muhammad Akram, Adeela Arshad-Ayaz, Muhammad Ayaz Naseem, "A Comparative Study of Social Media's Religiopolitical Use by Pakistan Tehrik-e-Insaf (PTI) and Tehrik-e-Labbaik Pakistan (TLP)."

39 Muhammad Akram, Adeela Arshad-Ayaz, Muhammad Ayaz Naseem, "A Comparative Study of Social Media's Religiopolitical Use by Pakistan Tehrik-e-Insaf (PTI) and Tehrik-e-Labbaik Pakistan (TLP)."

YouTube channels officially run by the organization and established at different times. The average weekly subscriber and views gain represent the data from September 2023 to October 2024.

Table 1: Official YouTube Channels of TLP and their Statistics

Name of Channel	Subscribers	Video Views (Cumulated)	Weekly Average Subscribers Gain	Weekly Average Views Gain
@AllamaKhadimHussainRizvi9263	1,060,000	143,767,892	1,842	210,458
@HafizSaadHussainRizvi	46,700	2,229,132	182	2,018
@LabbaikMediaCell313	189,000	20,211,376	368	41,230
@TehreekLabbaikPakistanofficial	80,100	6,224,649	608	67,556
Total Cumulative Subscribers and Views	1,375,800	172,433,049	3000	321,262

Source: Based on data sourced from Social Blade https://socialblade.com/

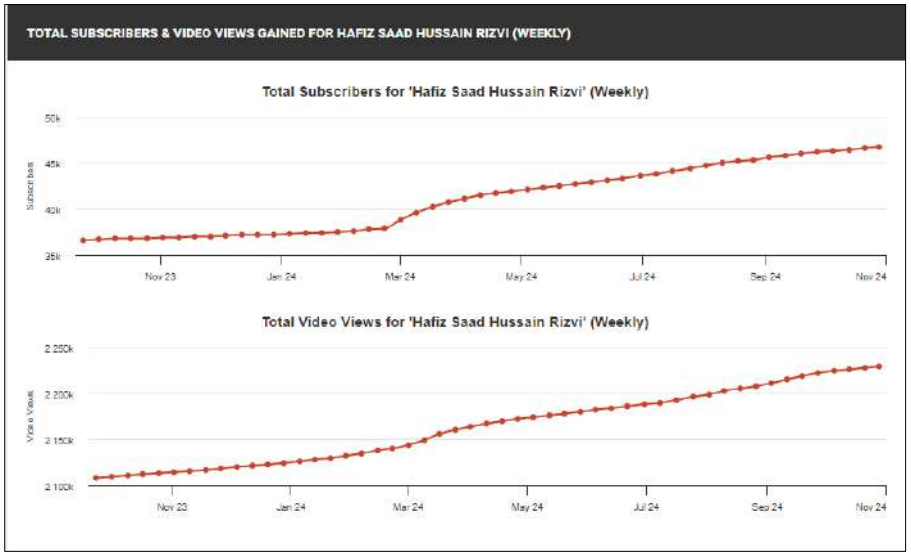
Established on May 29, 2016, the oldest YouTube channel, @AllamaKhadimHussainRizvi9263 has since gained 1.06 million followers, amassing a cumulative total view of 143,767,892 on its videos. The weekly average increase in subscribers for the channel from 25 September 2023 to 28 October 2024 stood at 1842, while the average weekly count for the video views for the channel stood at 210,458 views. *Figure 1* highlights the weekly and monthly trends for the subscribers and video count views for the channel.

After the death of Allama Khadim Hussain Rizvi, his son, Allama Saad Hussain Rizvi, assumed the leadership of TLP. Although his YouTube channel has not amassed a great number of subscribers compared to his father, statistical analysis of his channel presents a worthy insight into the continued presence and penetration of TLP's reach within the society. Saad Rizvi's official YouTube channel @HafizSaadHussainRizvi has 46,700 subscribers and a total video views count of 2,229,132. The weekly average increase in subscribers for the channel remains 182, while the views count average increase stands at 2,018. *Figure 2* highlights the average weekly trend in the subscribers and video views count for the channel.

Figure 1: Weekly Subscribers and Video Views on YouTube Channel @AllamaKhadimHussainRizvi9263.

Source: Data sourced from Social Blade https://socialblade.com/.

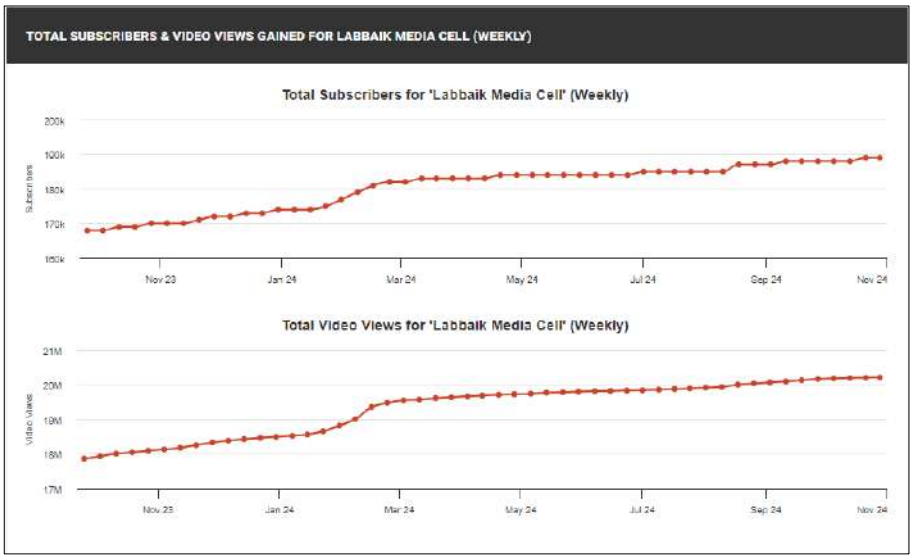
Figure 2: Weekly Subscribers and Video Views on YouTube Channel @HafizSaadHussainRizvi.



Source: Data sourced from Social Blade https://socialblade.com/

TLP's official YouTube channel, @LabbaikMediaCell313, was created in 2021 and has a total of 189,000 subscribers and 20,211,376 video views. The average weekly increase in subscribers for the channel is 368, and the average weekly increase in the video views is 41,230. *Figure 3* below shows the subscribers' average trend and channel video counts.

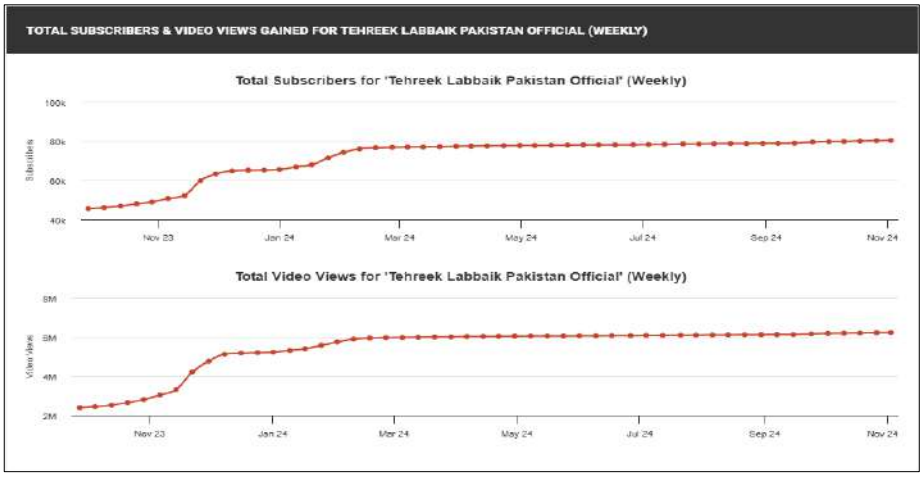
Figure :3 Weekly Subscribers and Video Views on YouTube Channel @LabbaikMediaCell313.



Source: Data sourced from Social Blade https://socialblade.com/

The fourth official YouTube channel of TLP, @TehreekLabbaikPakistanofficial was created on November 23, 2022. In just two years, the channel has gained a subscriber count of 80,100 and a video views count of 6,224,649. The average weekly subscribers and views gained are 608 and 67,556 respectively. *Figure 4* represents the weekly trend of gains in subscribers and video views of the channel.

Figure 4: Weekly Subscribers and Video Views on YouTube Channel @TehreekLabbaikPakistanofficial.



Source:Data sourced from Social Blade https://socialblade.com/

Taking the cumulative total of the four YouTube channels run by TLP, the total subscriber count stands at 1.37 million. The cumulative video views count stands at 172.43 million. The average weekly cumulative increase in subscribers and video views stand at 3000 and

321,262 respectively. The continuously increasing video views along with the cumulative subscriber count show that TLP has a significant presence at the YouTube platform and utilizes it effectively to amplify the reach of their narrative across the country.

X (Formerly Twitter) TLP's X activity coincides with the majority of their on-ground protests and actions. However, the lack of archival data prior to November 2018 limits the analysis of TLP's X activity during various events since its rise in the 2017 Faizabad protest. However, for the purpose of understanding the narrative and political agenda of TLP, major on-ground actions of TLP leading up to November 2018 are discussed below. For events of November 2018 and onwards, on-grounds actions are triangulated by TLP's X activity as well.

TLP Demands Fulfillment of November 2017 Agreement: On April 12, 2018, TLP took to the streets and organized protests all over the country, blocking several highways. These protests affected several cities of the country including Lahore, Rawalpindi, Hyderabad, Sheikhupura, Gujranwala, Mandi Bahuddin, Karachi and Peshawar. The protests continued for 12 days and ended with an agreement between the government and the TLP.[40]

Supreme Court Acquits Aasia Bibi of Blasphemy Charges: On October 30, 2018, the Supreme Court of Pakistan acquitted Aasia Bibi of the Blasphemy charges quoting: *"Keeping in mind the evidence produced by the prosecution against the alleged blasphemy committed by the appellant, the prosecution has categorically failed to prove its case beyond reasonable doubt."*[41] The news of Aasia's acquittal was not received well within the religious circles, especially by TLP, whose foundations were rooted in the case. Once again, the whole country saw violent protests, with TLP leading the charge, forcing the government to sign another five-point agreement to submit a review petition against Aasia Bibi's acquittal and putting her name on the Exit Control List (ECL).[42]

Allama Khadim Hussain Rizvi Booked for Treason: In November 2018, Allama Khadim Hussain Rizvi was taken into custody by the government, who termed it as a "protective custody." However, on December 2, 2018, the government announced the trial of Khadim Hussain Rizvi under the charges of treason and incitement of violence against the state. This event was covered significantly at X using the hashtag #KhadimHussainRizvi. The hashtag continued to trend on Twitter for more than 14 hours. The hashtag was also the top-ranked Twitter hashtag based on the trending time for the whole day on December 2, 2018.

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40 "7 protests, 7 agreements: A timeline of TLP protests," *Geo News*, October 31, 2021,https://www.geo.tv/latest/

41 Haseeb Bhatti, "Supreme Court acquits Aasia Bibi, orders immediate release," *Dawn*, October 30, 2018.

42 "7 Protests, 7 Agreements: A Timeline Of TLP Protests."

Allama Khadim Hussain Rizvi Walks Out of Jail: On May 16, 2019, Khadim Hussain Rizvi was released a day after Lahore High Court granted the bail to the TLP Chief. His release also coinciding with significant twitter activity with the trending hashtag #WelcomeBackKhadimRizvi. The total tweet volume it amassed was 88,559 and it ranked 3rd among the top 5 on the basis of tweet volume. It was also the 3rd highest among the longest trending with a trending time of 11.5 hours of the day.

TLP Demands Expulsion of French Ambassador: In November 2020, protests and demonstrations erupted in Pakistan against France after a French magazine, Charlie Hebdo, announced to publish some controversial cartoons.[43] These protests were mainly led by TLP, which till now had gained considerable influence in the domestic political landscape of the country. The protestors, led by Khadim Rizvi, demanded the expulsion of the French Ambassador and a boycott of French goods. During this time, several hashtags were used to promote TLP's narrative across the country. For example, the trend #WorsthellingOnTLPMarch became the second longest-running trend on 16th November 2020, with a total tweet volume of 86,931 tweets. Similarly, another trend of #Harummati_ ParFarz_TahafuzNamoos_Risalat, roughly translated as protection of Prophet's honour is a duty of every follower, amassed a total tweets volume of 64,140. It also became the 6th top trend in the country in terms of volume. The protests were called off by TLP after an agreement was reached with government agreeing to take the matter of the expulsion to parliament and reducing the country's diplomatic engagements with France.[44]

Khadim Rizvi Dies: Just days after the protests to expel the French ambassador, Khadim Hussain Rizvi passed away on November 19, 2020.[45] Once again, Twitter trends remained active as people gathered to perform the TLP leader's last rites. The hashtag #KhadimHussainRizvi remained trending for two days, i.e. 20th and 21st November 2020. A cumulative total of 78,000 tweet volume was reached while trending time was 9.5 and 8.5 hours on November 20 and 21, respectively. Both trending times were ranked in the top 5 for days.

TLP Demands Release of Saad Rizvi: In October 2021, TLP once again clashed with the state resulting in the death of four police personnel.[46] The protests erupted as TLP demanded release of its imprisoned leader, who was taken into custody on the charges of inciting

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43 Asad Hashim, "Pakistan Anti-France Protests Called Off After 'Deal' with Gov't," *Al Jazeera*, November 17, 2020, https://www.aljazeera.com/news/2020/11/.

44 Ibid.

45 Adnan Lodhi, "TLP Chief Khadim Hussain Rizvi Passes Away," *Express Tribune*, November 19, 2020.

46 "Four Pakistani police killed in violence at far-right TLP protest," *Al Jazeera*, October 27, 2021, https://www.aljazeera.com/news/

violence against state to expel French ambassador. The 10 day protest ended with yet another agreement with the state authorities. TLP protests also coincided with the Islamic date of 12th Rabiul Awal, which is celebrated as the birthday of the Holy Prophet (PBUH), mainly by the Barelvi population of Pakistan. In 2020, this day was celebrated on 20th October, and trends of X (formerly Twitter) were mostly related to the celebration of the birthday; however, one certain trend, #JangonwalayNabikiAmad [transliteration], roughly translates to the coming of the Prophet of war, was most likely carried by TLP as it carried confrontationist connotations. The tweet had a total volume of 238,029 tweets, and it became not only the 3rd most tweeted trend of the day but also the 4th longest-running trend with a trending time of 15 hours. Several more trends followed on the proceeding days from October 21 to October 24, with different hashtags gaining greater coverage. The hashtag #KalTakMuhaidaPooraKaro [transliteration], roughly translated to Fulfill the Agreement by Tomorrow, amassed a total tweet volume of more than 500,000 over two days, ranking at 2nd and 3rd. Another hashtag #LabbaikNamoos_E_RisalatMarch, amassed more than a total of 1.5 million tweets volume over three separate days. These trends were also ranked at the top on both given days. With violence ensuing during the protests, TLP was also using the hashtag #PtiTerroristStopKillingTLP, which amassed a total of 917,921 tweets volume over two days, being ranked 2nd on both days.

First Death Anniversary of Allama Khadim Hussain Rizvi: With the death of its founding leader, Allama Khadim Hussain Rizvi, many thought the party would also lose its street support and die a natural death. However, his son, Hafiz Saad Hussain Rizvi, continued to amass greater support from his followers, with many others joining their ranks due to their increased strength against state institutions. Their social media campaigns continued to show greater penetration with the hashtag #Urs_Ameer-ul-Mujahideen (transliteration) on the death anniversary of Allama Khadim Hussain Rizvi. The hashtag amassed a total tweet volume of 125,940 on November 19, 202,1 being ranked on the 5th spot. The word Ameer-ul-Mujahideen remains significant in this hashtag, which roughly translates to leader of the Mujahideen, connoting to the spirit of Jihad and armed struggle against disbelievers.

Lynching of Sri Lankan National Priyantha Kumara: Pakistan was once again in the global headlines for the lynching of Sri Lankan citizen, Priyantha Kumara, in the city of Sialkot. On December 3, 2021, a mob lynched Priyantha, a local factory manager, over the allegations of Blasphemy.[47] During the act, the mob was chanting the party slogans of TLP. TLP leadership denied their involvement in the act and even

[47] Imran Sadiq, "Sialkot mob lynches Sri Lankan factory manager, burns corpse over blasphemy allegations," *Dawn*, December 3, 2021, https://www.dawn.com/news/1661728

condemned the lynching.[48] Despite TLP leadership's denial of being involved in the event, the chanting of TLP's slogans by the violent mob signifies the entrenchment of its extremist narrative in society. For three days after the lynching, hashtags related to the Sialkot incident were trending on X. However, on the fourth day, despite denouncing the act, the TLP activists and supporters began the hashtag #Shuhuda-e-Namoos-e-RisalatConference (transliteration), roughly translating to Martyrs for Prophet's Honor Conference. Although the language of the trend itself did not directly relate to the Sialkot incident, the timing of this trend points towards tacit support. The hashtag amassed a tweet volume of 57,974 and was the sixth top trend for the day.

TLP Celebrates Independence Day at Faizabad: On August 14, 2022, TLP leader Hafiz Saad Hussain Rizvi announced to hold a rally "Nazriya-i-Pakistan" starting from Liaquat Bagh to Faizabad.[49] TLP leader Hafiz Saad Hussain Rizvi stated that the rally was being held to defend the 'two-nation theory', on which Pakistan was found. He also commended the armed forces and reiterated their support for defending the motherland. On the day, TLP was again trending on Twitter with the hashtag #Labbaik_Faizabad, which amassed a tweet volume of 755,657, being ranked the number one in terms of volume. Although the hashtag does not promote or signify any extremist narrative, the volume of the tweets for their celebratory rally highlights the deep roots the party has been able to cultivate through social media campaigning and narrative promotion.

In 2022, X suspended accounts of TLP leadership for censorship of content that violates the community guidelines. However, the TLP continued its on-ground activities with more protests and clashes with the government, the recent being a sit-in at Faizabad in July 2024 to demand greater action to support Gaza. Despite bans and suspension on social media, especially X (formerly Twitter) and Facebook, the ability of the group to stage week-long sit-ins showcases the outreach of TLP to the masses. It is also important to note that this study has only analyzed the official channels of TLP on YouTube, therefore, the actual extent of TLP's audience reach must be much higher if TLP's fan pages are also incorporated in the data. Similarly, the inaccessibility of archival data related to the comprehensive activity of TLP on X (formerly twitter) has also limited the analysis to the ranks, trending duration and tweet volume. However, if retweets and private shares are also taken into account, the actual outreach of TLP's activity on X must have been much higher at the time. Ultimately, this translates into the amplification of the narratives and messages of TLP to a wider audience. *Table 2* presents different hashtags based on their tweet volume and trending time along with their ranks.

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48 Usama Nizamani, "The TLP, Social Media, and Recurring Cycles of Violence," *South Asian Voices*, February 17, 2022, https://southasianvoices.org/

49 Aamir Yasin, "TLP celebrates Independence Day at Faizabad," *Dawn*, August 14, 2022.

Table 2: Hashtags Tweet Volume and Ranking for the Day.

Hashtag	Tweets Volume	Rank	Date	Event Coinciding
#KhadimHussainRizvi	19136	1st	December 2, 2018	Khadim Hussain Rizvi Booked for Treason
#WelcomeBackKhadimRizvi	88559	3rd	May 16, 2019	Khadim Rizvi Released from Prison
#WorsthellingOnTLPMarch	86931	2nd	November 16, 2020	Protests against France
##Harummati_ParFarz_TahafuzNamoos_Risalat	64,140	6th	November 17, 2020	Protests against France
#KhadinHussainRizvi	78,000+		November 20 & 21, 2020	Death of Khadim Rizvi
#JangonwalayNabikiAmad	238029	3rd	October 20, 2021	Birthday of the Holy Prophet (PBUH) while TLP was Agitating on the Roads for Release of its Leader
#KalTakMuhaidaPooraKaro	586,889	2nd and 3rd	October 21 & 22, 2021	Protests to Fulfill Demands over France
#LabbaikNamoos_E_Risalat March	1.7 million	1st, 1st and 3rd	October 22-24, 2021	Protests over Demands to Release Saad Rizvi
#PtiTerroristStopKillingTLP	917,921	2nd	October 22-23, 2021	Government Clamps down on TLP Protestors Demanding Release of Saad Rizvi
#Urs_Ameer-ul-Mujahideen	125,940	5th	November 19, 2021	Death Anniversary of Allama Khadim Hussain Rizvi

#Shuhuda-e-Namoos-e-RisalatConference	57,974	32nd	December 6, 2021	3 days after lynching of Priyantha Kumara
#Labbaik_Faizabad	755,657	1st	August 14, 2022	TLP Celebrates Independence Day

Source: Data compiled by the authors.

Regulation of Social Media Platforms in Pakistan

The internet has revolutionized access to information; however, it has also created the possibility of extremist content and campaigns being weaponised by extremist groups on an unprecedented scale. Social media platforms offer one of the most efficient and free tools for the promotion of extremist content that could even lead to ethnic cleansing. For instance, In August 2017, Rohingya Muslims- a minority ethno-religious group in Myanmar- was subjected to a systematic military campaign involving mass killings, arson and rapes.[50] As a result of this, around a million Rohingya were forced to live in exile in the neighboring countries.[51] In 2018, a UN fact finding mission revealed that Facebook was one of the primary and "useful instrument" for systemically running a hate campaign against the Rohingya and for creating the conditions for ethnic cleansing of the group in the country.[52] In subsequent months, Meta (Facebook's parent company) released a human rights impact report in which the company admitted that it had not done enough to stop the hate campaign against the Rohingya on its platform.[53] In 2022, Amnesty International further revealed that anti-Rohingya content was "proactively amplified" by Facebook's algorithms.[54] Moreover, it was also claimed by Amnesty International that for social media companies the lives and issues of users from the Global South are comparatively given less attention and priority.[55] This implies that not only the engagement based algorithms of social media platforms tend to amplify hateful and graphic content, but

50 U.S. Department of State, *Documentation of Atrocities in Northern Rakhine State*, 2018, https://www.state.gov/wp-content/uploads/2019/01/

51 UN Refugee Agency, "Rohingya Refugee Crisis Explained," UNHCR, last modified March 18, 2019, https://www.unrefugees.org/news/

52 United Nations Human Rights Council, *Report of the Independent International Fact-Finding Mission on Myanmar*, A/HRC/39/64, September 12, 2018, p. 14, https://www.ohchr.org/sites/default/files/

53 Facebook, "Human Rights Impact Assessment: Myanmar," November 2018, https://about.fb.com/news/2018/11/myanmar-hria/.

54 Amnesty International, "Myanmar: Facebook's Systems Promoted Violence Against Rohingya; Meta Owes Reparations – New Report," September 6, 2022, https://www.amnesty.org/en/latest/news/2022/

55 Ibid.

implementation of content moderation policies and community guidelines are also comparatively weaker for underdeveloped countries. Therefore, it could be concluded that one of the main reasons that extremist content online goes largely unchecked in countries like Pakistan is the policies of social media platforms.

Another important aspect related to moderation of content on social media platforms is the issue of non-English languages. For example, after the breakout of hate speech against the Rohingya Muslims Myanmar that led to a large-scale violence, Facebook hired 100 Burmese speaking content moderators. The job of these moderators was to develop a dataset providing local context for detection of hateful content. This dataset was later used by Facebook to train its algorithms to detect harmful content on its platform.[56] However, it is also important to note that there are thousands of local languages and dialects that are used around the world. Moreover, with a rapid exchange of information, trends of popular culture constantly evolve, which also impacts the trends of language and communication. Therefore, creating databases and automated systems that can understand evolving communication trends, local contexts and different dialects. However, with the successful integration of Large Language Models (LLMs) with the internet, natural language processing (NLP) has become relatively easier.[57] Therefore, social media platforms must strike a delicate balance to keep hateful and extremist content in check, while ensuring freedom of speech of their users.

In Pakistan, content on social media platforms is primarily regulated through blocking or censorship. In 2010, Pakistan blocked Facebook over a blasphemous campaign on the platform. In 2012, YouTube was banned by the Pakistan Telecommunication Authority (PTA) over objectionable content. The ban remained in place for 4 years until it was finally lifted in 2016.[58]A similar ban was placed on Wikipedia for two days in 2023. In February 2024, the Pakistan government blocked access to X (formerly Twitter), citing national security concerns. The ban came around the time of the 2024 elections, and the platform remains inaccessible to date.[59] Censorship of content in Pakistan is primarily carried out by the Pakistan Telecommunication Authority (PTA)

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56 Facebook, "Human Rights Impact Assessment: Myanmar."

57 TELUS Digital, "The Evolution of Natural Language Processing," last modified March 3, 2022, https://www.telusdigital.com/insights/ai-data/article/natural-language-processing-evolution.

58 Usama Khilji, "Did the PTA Illegally Block YouTube During Imran Khan's Speech?," DAWN.COM, last modified September 12, 2022, https://www.dawn.com/news/1707706.

59 Muhammad Ahmad, "Govt Stands Firm on X Clampdown, Citing National Security Concerns," *Express Tribune*, October 30, 2023, https://tribune.com.pk/story/2477815/govt-stands-firm-on-x-clampdown-citing-national-security-concerns.

Section 37 of the Prevention of Electronic Crimes Act 2016 (PECA) empowers PTA to block and remove online content if it infringes on the "interest of the glory of Islam or the integrity, security or defence of Pakistan or a part thereof, public order, decency or morality or in relation to contempt of court or commission of or incitement to an offence under this Act."[60] However, it is important to observe that as Waldman and Verga (2016) point out, blanket censorship or suspension of extremist content could be a short-term fix, however, these strategies are inadequate in offering long-term solutions.[61] The sheer amount of content that needs to be sifted through for detection and suspension of extremist content makes it a difficult task for any government organization. Moreover, social media accounts are moving targets as as deactivating and setting up a new account is fairly simple. Similarly, blanket censorships or suspensions are not effective against encrypted social media services and 'dark net' platforms.[62] Therefore, instead of blanket censorship or suspension of accounts/platforms, an effective strategy would be to engage the management of social media platforms to provide context for the training of their algorithms that detect hateful and extremist content. Moreover, local community leaders could also be engaged to come up with effective counter-extremist narratives.

Conclusion

Social media platforms offer a simple and free tool for the propagation and amplification of extremist narratives. The unabated flow of polarizing, radical and extremist content on these platforms continues to pose a significant challenge for states and social media regulators alike. Deliberated and coordinated dissemination of extremist content online has consequences in the real world. Social media platforms are often employed by the extremist groups to coordinate and carry out mass protests and support vigilantism. Pakistan continues to face these challenges with regard to TLP.

In order to deal with the challenge of regulating extremist content online, Pakistan has for long used the traditional methods of bans and censorship. However, these strategies have failed to limit the influence and reach of extremist content. To effectively counter the propagation of extremist content, close collaboration with social media platforms is needed. Content moderation algorithms of different social media platforms are not always trained in the local languages and context. Therefore, there is a need to identify the target areas of the extremist narratives and then train the regulation algorithms according to the local

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60 Government of Pakistan, *Prevention of Electronic Crimes Act, 2016*, http://nasirlawsite.com/laws/peca1.htm.

61 Waldman and Verga, *Countering Violent Extremism*, p. 6-7.

62 Ibid.

languages and contexts. A contextual moderation algorithm would prove significant in countering various contextual content which otherwise would pass through universal regulatory mechanisms. Moreover, community based counter-extremist narratives are also required that cater to the realities and needs of each community rather than adoption of an overarching counter-extremist narrative for the whole nation.

EXAMINING THE INTERSECTION OF CLIMATE CHANGE AND POST COLONIALITY AT COP27: A DISCOURSE ANALYSIS

ZARMINA KHAN*

Abstract

This paper examines the discourse surrounding climate change at COP27 through the lens of Postcolonial Critical Discourse Analysis (PCDA), which combines insights from Postcolonial Theory and Critical Discourse Analysis. Using the frameworks of Fairclough, Dryzek, and Van Dijk, the study analyses speeches from the UNFCCC Secretariat, the European Union, and the Umbrella Group to explore representations of the Global South, recognition of historical responsibility, and the need for equity in climate negotiations. The findings reveal that while the UNFCCC Secretariat emphasizes inclusivity and transparency, the EU and the United States often reinforce colonial hierarchies by framing themselves as global leaders and neglecting the agency of marginalized communities. This study underscores the necessity of decolonizing climate negotiations to achieve equitable and effective global climate action. It calls for recognizing historical injustices, valuing indigenous knowledge, and promoting the Global South's active role in addressing the climate crisis.

Keywords: *Climate Change, Postcolonial Discourse, COP27, Global South, Equity in Climate Negotiations*

Introduction

Global ecosystems and human livelihoods are both seriously threatened by climate change. It is one of several current crises that demand coordinated action and international cooperation. The United Nations Framework Convention on Climate Change (UNFCCC) orchestrates and supervises the international response to climate change[1].

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1 Dominick A. Della Sala and Michael I. Goldstein, eds., "*Encyclopedia of the Anthropocene* (Elsevier, 2017)"

Delegates from more than 190 countries gather annually at the Conference of the Parties (COP) to set and advance climate mitigation and adaptation. In 2022, Sharm El-Sheikh, Egypt hosted the 27th Conference of the Parties (COP27) from November 6–20 with the high-level segment taking place between 15-18th November.[2]

The UNFCCC discussions have a significant impact on determining the standards, guiding principles, and priority levels for global climate action. The deeply ingrained, structural disparities that already support UNFCCC negotiations are supported by well-documented evidence. They include inadequate representation of indigenous communities and marginalized groups, a lack of opportunities for civil society participation, unequal power dynamics between parties from developed and developing countries, and unfair negotiation techniques like side consultations and informal meetings.[3]

As demonstrated by the large number of discourse studies on environmental policy analysis conducted over the past 30 years, discourse is relevant to environmental politics.[4] Aside from a few studies that examined how climate change became a topic of political discourse and how climate justice and indigenous knowledge should have considerable merit in global climate negotiations, the number of studies on a postcolonial discourse analysis of climate negotiations is surprisingly small. There are studies about how discourses are employed for climate change policies, but they do not explain the transnational discursive processes.

The discourse surrounding climate change at COP27 has the potential to both reproduce and challenge colonial power dynamics. Developing countries are typically viewed as recipients of adaptation programs rather than equal participants in decision-making processes, whereas wealthy countries are frequently recognised as leaders in climate action. This dialogue illustrates historical patterns of oppression in which the Global North dictates responses while the Global South solicits equitable assistance and recognition.Nonetheless, rising counter-discourses from developing nations and advocacy organisations challenge

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2 Sharm El-Sheikh,"*Climate Change Conference—November 2022*," UNFCCC, 2022, https://unfccc.int/cop27#attend.

3 Natalie Cogswell and Natalie Warszawski, "5 Challenges the UNFCCC Must Overcome to Spur Climate Action," World Resources Institute, 2022, https://www.wri.org/insights/5-challenges-unfccc-must-overcome-climate-action.

4 Lukas Hermwille et al., "UNFCCC Before and After Paris—What's Necessary for an Effective Climate Regime?" *Climate Policy* 17, no. 2 (2017): 150–170, https://doi.org/10.1080/14693062.2015.1115231.

these discrepancies and promote greater accountability and climate justice.

Particularly relevant to the study of climate negotiations is Postcolonial Critical Discourse Analysis (PCDA), which enables an examination of how discourse and language influence power relations between the Global North and South. By stressing the ideological purposes of language and Postcolonial Theory's criticism of historical and structural inequalities, PCDA provides a solid framework for understanding how climate rhetoric at COP27 can either perpetuate or undermine neocolonial power systems.

In line with the discussion above, this paper aims to explore how the discourse surrounding climate change at COP27 reproduces and/or challenges colonial power dynamics by analysing the speeches of the UNFCCC secretariat along with two major negotiating groups largely representative of the Global North namely the European Union and the Umbrella group at the high-level event of COP27. The paper will use PCDA as a methodological and theoretical framework that combines insights from Critical Discourse Analysis (CDA) and Postcolonial Theory. Postcolonial Theory and CDA are combined since they share similar goals and principals.

This study enhances the existing literature on climate discourse by including a postcolonial perspective into high-level climate discussions, a viewpoint that has received less attention to date. Through an exhaustive examination of the statements made by influential parties, this research sheds light on the ways language supports or challenges prevailing narratives about responsibility, adaptation, and equity in the context of global climate governance. Moreover, this study could provide negotiators and lawmakers with discursive techniques that could either facilitate or hinder equitable climate action.

First, a brief overview of the climate negotiations under UNFCCC will be provided, highlighting all important milestones. After a review of climate negotiations under the UNFCCC, the paper will present Postcolonial Critical Discourse Analysis (PCDA) as the theoretical framework, substantiating its relevance to climate discourse. The methodology section will elucidate the selection criteria for speeches from representatives of the European Union, the Umbrella Group, and the UNFCCC Secretariat, while defining the analytical framework revised by Fairclough, Dryzek, and Van Dijk. The findings section will meticulously employ PCDA to identify rhetorical techniques, framing devices, and allusions to historical accountability. Emphasising patterns of discursive hegemony, counter-discourses, and their consequences for future climate policy, the article will critically examine these results through a postcolonial perspective. The paper will end with ideas for decolonising climate negotiations and advancing fair climate action.

Climate Negotiations under the UNFCCC

The United Nations Framework Convention on Climate Change (UNFCCC) was established in 1992 at the UN Conference on Sustainable Development in Rio, following the success of the 1987 international agreement on ozone layer depletion and growing concerns about climate change.[5] In the 1990s, discussions on climate change were mostly limited to developed countries. However, with the advent of the new decade, it became quite implicit that both developed and developing countries would be impacted. Reducing emissions required developed nations to reassess their way of life, while for developing nations, it became a matter of survival.[6]

From the start, there were different perspectives on what the UNFCCC should focus on. Developed countries like those in Western Europe and North America believed that anthropogenic gas emissions were a global problem that needed a coordinated effort to reach common environmental standards, thereby circumventing inequitable competition from nations with less rigorous standards.[7] On the other hand, developing countries criticized developed nations' focus on the environment, arguing that environmental issues are intimately linked to socioeconomic concerns; certain environmental remedies, like slowing down economic development, could imperil sovereignty.[8]

The UNFCCC negotiations began with the execution of the Kyoto Protocol (KP) in 1997, which necessitated an 8% reduction in greenhouse gas emissions for industrialised countries specified in Annex I of the treaty, while developing economies were just obligated to report their emissions.[9] However, in 2005, arguing that it was unfair to let the emissions of major emitters like China go unregulated, the United States, the most polluting nation in the world, rejected the accord.[10]

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5 Dominick A. Della Sala and Michael I. Goldstein, eds., *Encyclopedia of the Anthropocene* (Elsevier, 2017).

6 Lukas Moosmann, *The COP27 Climate Change Conference—Status of Climate Negotiations and Issues at Stake* (Study for the Committee on the Environment, Public Health and Food Safety, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, 2022).

7 Raoni Rajão and Tiago Duarte, "Performing Postcolonial Identities at the United Nations' Climate Negotiations," *Postcolonial Studies* 21, no. 3 (2018): 364–378.

8 Ibid.

9 Yong Gung Kim, Kanako Tanaka, and Shunsuke Matsuoka, "Environmental and Economic Effectiveness of the Kyoto Protocol," *PLOS ONE* 15, no. 7 (2020): e0236299, https://doi.org/10.1371/journal.pone.0236299.

10 Ibid.

Beginning in 2007, the UNFCCC worked towards a new climate agreement at the COP15 in Copenhagen in 2009. Negotiations reached a standstill on disagreements about financial aid structures and carbon reduction pledges.[11] Western nations have targeted emerging economies, particularly China, due to their reluctance to pass carbon laws and doubts about their emission data. Developing nations complained about inequitable and inadequate sustainable development requirements from developed nations. The resulting Copenhagen Accord highlighted the differences in global climate governance between wealthy and developing nations but did not impose legally enforceable requirements.[12]

Subsequent to the unsuccessful Copenhagen negotiations, the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) was established at COP 17 in 2011, with the objective of expediting the negotiations for the forthcoming climate agreement, culminating in the Paris Agreement in 2015.[13] Achieving a global average temperature increase of less than 2 degrees Celsius above pre-industrial levels was one of the primary objectives of the Paris Agreement. It also aimed to improve the world's adaptive capacity, strengthen resilience, and reduce vulnerability to the effects of climate change.[14]

Parties were able to approve other significant outcomes and conclude the Paris Agreement Rulebook despite contentious negotiations at COP 26. Several parties stated that they were adopting the package "in the spirit of compromise."In order to build on prior accomplishments and prepare the path for future ambition to effectively address the climate emergency, Egypt hosted COP27 in November 2022. Thirty years had passed since UNFCCC was established, and seven years had passed since the Paris Agreement was ratified. The conference's agenda featured discussion on partnership enhancement, climate finance, adaptation, and mitigation.[15]

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11 Xueman Wang and Glenn Wiser, "Compliance Regimes Under the Climate Change Convention and Its Kyoto Protocol," *Review of European Community & International Environmental Law* 11, no. 2 (2002): 181–198, https://doi.org/10.1111/1467-9388.00319.

12 Ibid.

13 Lukas Hermwille et al., "UNFCCC Before and After Paris—What's Necessary for an Effective Climate Regime?" *Climate Policy* 17, no. 2 (2017): 150–170, https://doi.org/10.1080/14693062.2015.1115231.

14 Raphael Clemencon, "The Two Sides of the Paris Climate Agreement: Dismal Failure or Historic Breakthrough?" *The Journal of Environment & Development* 25 (2016): 3–24, https://doi.org/10.1177/1070496516631362.

15 Lukas Moosmann, "*The COP27 Climate Change Conference: Status of Climate Negotiations and Issues at Stake* (Study for the European Parliament's

Theoretical Framework

By positioning postcolonial power relations at the heart of the examination, PCDA emphasizes the necessity to analyse speeches by stakeholders and their subsequent media representations by drawing on Postcolonial Theory and CDA. Although totally unrelated to one another as the central concern of Postcolonial Theory is the persistence of power disparities in modern societies as a direct outcome of (post)colonial practices, institutions, and situations,[16] [17] [18] [19] while CDA dissects discursive techniques to uncover how power is perpetuated in political discourse,[20] both theories are interested in the idea of power and using different strategies to uncover oppression and power imbalances. When the goal is to investigate discourses produced in postcolonial milieus, Postcolonial Theory offers a suitable theory of meaning to contextualize the application of CDA.

The investigation of speeches by stakeholders at the high-level events of climate conferences can certainly benefit from the ideas and methods provided by postcolonial theory, but given the breadth of knowledge that constitutes postcolonial theory, several conceptions have emerged as a result of a wide range of (post)colonial experiences. The literature frequently references the post colonial's seemingly perpetual "redefinition" since it is closely tied to ethical, political, economic, theological, and cultural issues.[21] The postcolonial serves to highlight the historical context and, consequently, the responsibility that the colonisers have for their former colonies, a connection and an obligation that are quite neglected and need to be addressed.[22]

Committee on the Environment, Public Health and Food Safety, Policy Department for Economic, Scientific, and Quality of Life Policies, 2022).

16 Bill Ashcroft, Gareth Griffiths, and Helen Tiffin, *The Empire Writes Back: Theory and Practice in Post-Colonial Literatures* (Routledge, 2003).

17 Leela Gandhi, *Postcolonial Theory: A Critical Introduction* (New York: Columbia University Press, 2019).

18 Sankaran Krishna, *Globalization and Postcolonialism: Hegemony and Resistance in the Twenty-First Century* (Lanham, MD: Rowman & Littlefield Publishers, 2009).

19 Tejumola Olaniyan, "On 'Post-Colonial Discourse': An Introduction," *Callaloo* 16, no. 4 (1993): 743–749, https://doi.org/10.2307/2932207.

20 Norman Fairclough, *Critical Discourse Analysis: The Critical Study of Language* (London: Routledge, 2018).

21 Robert J. C. Young, *Postcolonialism: An Historical Introduction* (Malden, MA: John Wiley & Sons, 2016).

22 Raoni Rajão and Tiago Duarte, "Performing Postcolonial Identities at the United Nations' Climate Negotiations," *Postcolonial Studies* 21, no. 3 (2018): 364–378, https://doi.org/10.1080/13688790.2018.1482597.

CDA, on the other hand, examines how discourse, power, and social inequality interact with the subjective position of the discourse analyst within these social connections.[23] Language reflects and perpetuates the uneven allocation of power and social functions between socioeconomic classes or various national or racial groups. The term "critical" in discourse analysis goes beyond a mere description of discourse to critique it as well as the agents who create it in order to perpetuate and reproduce the asymmetrical power relations that are in their favour.[24] In other words, critical scholars work to reveal the strategies used to uphold the interests of the wealthy and powerful while defending the rights of those who suffer as a result (the powerless).

By situating discourse analysis within critical social theory, attention has recently turned to the relationships between language use and the socio-political practices and situations surrounding it. These practices need to be examined in light of the historical setting and socio-political processes that influenced their development and dissemination in the speeches of various stakeholders.[25] This is what PCDA aims to do. This transdisciplinary and problem-focused approach necessitates the integration of CDA with various theories and methodologies that provide a critical perspective on social inequality and injustice.

Due to CDA's inherent flexibility, it is possible to link it in a variety of ways with other widely accepted theoretical and methodological approaches.[26][27] In this regard, CDA gains from postcolonial theory since, when taken together, it offers CDA theoretical insights for the creation of a particular discourse analysis framework which is based on both historical and modern (post)colonial interactions. The relationship between the two viewpoints would also aid in placing these disparities into a theoretical and historical context, therefore enabling the analyst to surpass mere literary analysis to dig out the multiple interlocking systems of colonial oppression and socio-ecological inequities.

In PCDA, the postcolonial perspective provides the analysis's "critical" nature; as a result, the "critical" stance is one that supports the

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23 Piotr Cap, "Contemporary Critical Discourse Studies: Introduction," in *Contemporary Critical Discourse Studies*, ed. Christopher Hart and Piotr Cap (London: Bloomsbury, 2014), 1–15.

24 T. A. van Dijk, "Principles of Critical Discourse Analysis," *Discourse & Society* 4, no. 2 (1993): 249–283.

25 Tejumola Olaniyan, "On 'Post-Colonial Discourse': An Introduction," *Callaloo* 16, no. 4 (1993): 743–749, https://doi.org/10.2307/2932207.

26 T. A. van Dijk, "Principles of Critical Discourse Analysis," *Discourse & Society* 4, no. 2 (1993): 249–283.

27 Norman Fairclough, *Critical Discourse Analysis: The Critical Study of Language* (London: Routledge, 2018).

former colonized (i.e., the weaker party in this relationship) and investigates the manner in which the uneven power relations that exist after colonialism are replicated through discourse.[28] The essence of postcolonial theory itself dictates the reluctance to be objective and to criticize the entities that emerge as stronger parties.[29]

Methodology

This section will explain how PCDA is used to analyse the dimensions and discourses present in the statements of the UNFCCC secretariat, the European Union and the Umbrella Group. It will outline the specific data used for analysis along with the process of sampling.

Data and Sample

The data used in this study is obtained from the UNFCCC database,[30] which contains statements made by country representatives during the high-level segments of the convention. The opening and closing speeches of the selected world leaders were delivered on 6th, 11thand 15th November 2022. Overall, there were two major reasons for selecting the data set. First, speeches made by the chosen world leaders at the high-level segment provided a useful foundation for analysis as these were used to identify an actor's core argument or lack thereof with regard to the analytical rubric designed for PCDA. Second, accessibility and feasibility of data were also important criteria for selection. In cases when a speech was missing it was retrieved online.

In addition, only a sample of higher-level statements was chosen due to scope and feasibility considerations. Such meetings held by the host nations have been crucial for senior officials to participate in international climate negotiations since the first COP in 1995.[31][32] Although the high-level segment does not participate in COP decision-making, it greatly impacts COP negotiations and sets the tone for what is to be expected from

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28 Ibid.

29 Rahul Sanz Sabido, "Postcolonial Critical Discourse Analysis: Theory and Method," in *The Israeli-Palestinian Conflict in the British Press*, ed. Rahul Sanz Sabido (London: Palgrave Macmillan, 2019), 19–53.

30 UNFCCC, *Sharm El-Sheikh Climate Change Conference—November 2022* (UNFCCC, 2022), https://unfccc.int/cop27#attend.

31 Lindsay Maizland, "Global Climate Agreements: Successes and Failures," *Council on Foreign Relations*, 2022, https://www.cfr.org/backgrounder/paris-global-climate-change-agreements.

32 Raoni Rajão and Tiago Duarte, "Performing Postcolonial Identities at the United Nations' Climate Negotiations," *Postcolonial Studies* 21, no. 3 (2018): 364–378, https://doi.org/10.1080/13688790.2018.1482597.

the conference overall. A brief overview of the climate negotiations under the UNFCCC, as explained in section two, highlighted the discrepancies between developing and developed nations in the demands they put forth and the expectations that they had from each other. To further explore these dynamics, statements from the UNFCCC secretariat, the EU and the USA as a representative of the Umbrella group were chosen to understand how the discourse surrounding climate change at COP27 reproduces and/or challenges colonial power dynamics.

The UNFCCC secretariat was included in the analysis since it represented the normative opinion of the organization itself and served as a benchmark for how wicked problems like climate change should be understood and dealt with in the context of COP27 keeping in mind its colonial roots. The EU was chosen because it consists of countries that were former colonisers and still have relationships with their former colonies. Not only is the EU one of the largest emitters, but it also has a big role to play in the climate change negotiations since it holds private meetings outside the COP and also presents a unified stance at such conferences.

Lastly, USA was chosen because of its role as a major emitter and, from a theoretical viewpoint, since the findings of postcolonial theory are applicable in settler colonial contexts, even if it is a body of work with origins in many post-colonial locations. The legacy of colonialism is seen to persist in the postcolonial era in the shape of new forms of dominance that continue and broaden previous imperial practices of asymmetrical interdependence.[33]

The table below will introduce each of the aforementioned groups with a brief description regarding their origin and composition, along with their major agendas during the previous COPS. For the purpose of this paper, the name and designation of the representative of each group is also provided in the table along with the segment of the conference where they delivered their addresses.

[33] Bill Ashcroft, Gareth Griffiths, and Helen Tiffin, *The Empire Writes Back: Theory and Practice in Post-Colonial Literatures* (Routledge, 2003).

Table 1: Description Of Negotiation Groups With Major Mandates During Previous Cops And Statements From COP27 Included In The Analysis.[34]

Negotiating Groups	Description of the group	Focus during previous COPs	Representative	Segment of the conference
UNFCCC	The main platform for international negotiations on climate change since its establishment (1992).	It is essential to maintain atmospheric greenhouse gas concentrations at a level that will protect the climate system from detrimental human activities.	Simon Stiell, Executive Secretary UN Climate Change.	Opening Plenary.
European Union (EU)	A 27-member bloc, signatory of both the Paris Agreement and the UNFCCC. Undertakes private climate negotiations and submits a collective report of its GHG emissions to the UNFCCC.	Emphasizes upon enhancing ambition for mitigation and demands transparency on both support and activity. Highlights the EU's and its Member States' efforts in this area while recognizing the significance of support for developing nations.	Frans Timmermans, Executive Vice President of the European Commission.	Resumed High-Level Segment for Heads of State and Government.
Umbrella	A coalition of	Primarily	Joe Biden,	First Part of

[34] UNFCCC, *COP27 Opening Remarks by the UN Climate Change Executive Secretary* (November 7, 2022), https://unfccc.int/news/cop27-opening-remarks-by-the-un-climate-change-executive-secretary.

Group (UG)	roughly 10 parties formed after the adoption of the Kyoto Protocol, comprising of developed countries, most of them having high per-capita greenhouse gas emissions.	pushes emerging nations to play a role in mitigation efforts, however some of its members are wary of ambitious mitigation measures. In general, the group urges all parties to have strict standards of transparency.	President of the United States of America.	the High-Level Segment for Heads of State and Government.

Analysis of Statements by Selected Actors

This research aims to examine how the discourse surrounding climate change at COP27 reproduces or challenges colonial power dynamics. The analysis is done using an adapted version of Fairclough, Dryzek and Van Dijk's checklist for discourse analysis, which takes into account multiple dimensions of discourse, such as the vocabulary, grammar, structure, and rhetorical devices used by relevant actors[35][36][37]. They argue that discourses are similar to stories told by actors, and therefore, it is not enough to only look for explicit references to key terminologies regarding the focal points of analysis.

The above-mentioned model has been modified by borrowing issue areas from postcolonial theory in the backdrop of climate change such as the recognition of historical responsibility, how the developing world or the Global South is framed in the analysis, whether references have been made to climate justice in terms of the distribution of costs and benefits in addressing climate change etc. Other categories of the analytical rubric include the reference to technological solutions, emphasis on mitigation or adaptation and a focus on transparency and

35 Norman Fairclough, *Critical Discourse Analysis: The Critical Study of Language* (London: Routledge, 2018).

36 T. A. van Dijk, "Principles of Critical Discourse Analysis," *Discourse & Society* 4, no. 2 (1993): 249–283.

37 John S. Dryzek, *The Politics of the Earth: Environmental Discourses* (Oxford: Oxford University Press, 2013).

accountability measures. All these criteria within this framework are explained in the table below.

Table 2: Rubric for PCDA

Components of PCDA	**Description**
Thematic Focus and Key quotations	Important words, phrases, metaphors, and other literary devices.
Recognition of Historical Responsibility	Developed countries have historically been the largest contributors to climate change, and whether this responsibility is acknowledged.
Framing	The way in which Global South is represented in discourse. Is climate change framed as a problem to be solved by developed countries, or as a shared responsibility? are they portrayed as victims or as active agents in addressing climate change?
Emphasizing equity	Climate change disproportionately affects developing countries and whether this fact is recognised along with highlighting the importance of equity in the distribution of costs and benefits of addressing climate change.
Stressing upon technical solutions	Whether the discourse revolves around technical solutions to address climate change which cements the developed world's supremacy in having the necessary knowledge and resources to tackle climate change.
Mitigation Vs Adaptation	Is the focus placed on the reduction of greenhouse gas emissions or on addressing the impacts of climate change?focuses on the n
Transparency and Accountability	Whether the chosen stakeholders focus on making the climate negotiation process more transparent by also holding all parties accountable for their commitments.

Results

The conclusions based on the theoretical and analytical framework are summarized for each of the identified stakeholders in the tables below. The analytical rubric is used to evaluate both opening and closing statements from world leaders. The interpretation of the speech's discourse based on the identified components stemming out of postcolonial theory is summarized at the end of each assertion.

Table 3: PCDA Rubric For UNFCC

Components of PCDA	**Simon Stiell, Executive Secretary UN Climate Change[38]**
Thematic Focus and Key quotations	"The heart of implementation is: Everybody"; "We have a duty to speed up our international efforts to turn words into actions"; "Today a new era begins – and we begin to do things differently". "Mitigation, adaptation, finance and crucially - loss and damage" "Enhance the delivery of the principles of transparency and accountability throughout our process."
Recognition of Historical Responsibility	No mention
Framing	Climate change is a shared responsibility. Talked about collective action throughout.
Emphasizing equity	No mention
Stressing upon technical solutions	No mention
Mitigation Vs Adaptation	Focuses on both mitigation and adaptation.
Transparency and Accountability	Talks about holding "everyone" accountable and making all proceedings transparent.

The stance of the UNFCCC secretariat as put forth by the Executive Secretary is geared towards the implementation of the Paris Agreement, making the process as inclusive as possible for all involved stakeholders. Steill concentrates on the requirements of the most disadvantaged and urges the world to accelerate all efforts in order to combat climate change. He avoids the use of metaphors and other rhetorical devices to make his point and emphasises the need for both mitigation and adaptation along with the need to make the implementation process more transparent. Although there were no mentions of climate justice or technological solutions for the climate crisis; however, it can be inferred from his speech that the UNFCCC secretariat believes in in supporting marginalized groups and holding those responsible accountable.

[38] UNFCCC, *COP27 Opening Remarks by the UN Climate Change Executive Secretary* (November 7, 2022), https://unfccc.int/news/cop27-opening-remarks-by-the-un-climate-change-executive-secretary.

Table 4: PCDA Rubric For EU

Components of PCDA	**Frans Timmermans, Executive Vice President of the European Commission**[39]
Thematic Focus and Key quotations	"Major emitters trying to reach back from agreements in COP26"; "Keep 1.5 alive"; "Cut our emissions by at least 55% by 2030"; "Bridge the gap between those in need and those in a position to contribute"; "our people and planet have no more time to lose"; "Europe is staying the course".
Recognition of Historical Responsibility	Recognizes the responsibility of major emitters regardless of them being from the developing or developed blocs. Emphasis on addressing loss and damage for vulnerable countries and not all developing countries.
Framing	Distinguishes between all parties on the basis of emissions. Propose to take the global south emitters with "them". Discursive othering [40]can be seen in how Europe is portrayed as a global leader on climate change and their solutions hold merit. Eu would like to take the "emitters from the South with them".
Emphasizing equity	Acknowledges the fact that the developing countries are not being heard but no mention of how climate change affects different countries differently.
Stressing upon technical solutions	No mention
Mitigation Vs Adaptation	Recognises the importance of both mitigation and adaptation. Talks about the need to accelerate adaptation and double its funding and also talks about the importance of the mitigation works program.
Transparency and Accountability	No mention

[39] European Commission, *Opening Statement EVP Timmermans at COP27* (November 15, 2022), https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_22_6927.

[40] Critical discourse analysis calls discursive othering the development of a 'we against them' dichotomy that sustains power imbalances. Wealthier states portray themselves as climate leaders in climate negotiations while portraying developing nations as dependent on aid.

Both the opening and closing statements by Frans Timmermans were quite concise. He began with a reassurance that Europe is not backing down from the commitments that it made during the Paris agreement regarding the maintenance of the 1.5-degree target. He then talked about providing financial support for adaptation measures. The EU aimed to demonstrate leadership and express concern for the well-being of vulnerable countries. To back up this stance, Timmermans urged other parties to take action and announced that the EU will cut emissions by at least 55% by 2030.

The EU is portrayed as a group that cares about the well-being of all, as indicated by the reference to "our people and planet." There is no mention of technological solutions to avert the problem, which shows that the dependence of the global South on North-based technological advancement is sidestepped. A lack of focus on transparency and accountability, and no mention of the EU's specific responsibility for emissions or any other EU-specific issues, suggests that perhaps the EU has done its part, and now it is the turn of the other emitters to take the EU's lead and help avert the climate crisis.

Table 5: PCDA Rubric For UG

Components of PCDA	**Joe Biden, President of the United States of America[41]**
Thematic Focus and Key Quotations	"My administration has led with a bold agenda to address the climate crisis"; "Clean energy economy is imperative for our present and future"; "Accelerate decarbonation beyond our borders"; "Leaving no one behind as we implement the Sustainable Development Goals"; "It's going to take all of us". "Building a path to prosperity compatible with our climate imperative"; "Science is devastatingly clear". "United States [is] the first-ever contributor to the Adaptation Fund."
Recognition of Historical Responsibility	No mention.
Framing	Re-establishes the United States as a trustworthy, committed, global leader on climate. No mention of the disproportionate effects of climate change but urging "countries that are able to help" to

41 The White House, *Remarks by President Biden at the 27th Conference of the Parties to the Framework Convention on Climate Change (COP27)* (Sharm El-Sheikh, Egypt, November 11, 2022), https://www.whitehouse.gov/briefing-

	support developing countries.
Emphasizing equity	Talks about the need for all parties to work towards climate action especially all major emitters.
Stressing upon technical solutions	Focuses on clean energy technology and enhancing its availability so that it is accessible to the entire world.
Mitigation Vs Adaptation	Major Emphasis on adaptation. Pledges $3 billion annually by 2024 for adaptation". Introduces the "Emergency Plan for Adaptation and Resilience (PREPARE) to help developed countries adapt to the effects of climate change."
Transparency and Accountability	Emphasis on Transparency: "the project we're facilitating is built on transparency".

Former President, Joe Biden, of the United States demonstrated his commitment to the Paris Agreement by highlighting the US as a leading country in fighting climate change. He presented the issue of climate change not as a challenge, but as an opportunity to promote green growth initiatives, such as clean energy and economic growth, and discussed topics like vulnerability, ecological justice, and clean energy economy throughout his speech. Biden also emphasized the global nature of the problem and the need for international cooperation to address it, acknowledging that wealthier countries have a responsibility to contribute to the effort. He announced plans to increase financing, allocate more resources towards adaptation, and launch the Emergency Plan for Adaptation to help developing countries tackle climate change. Biden's speech also touched upon the obligation of countries with high emissions to take responsibility for their actions.

Discussion

In this section, the results would be analysed through the lens of postcolonial theory. One key aspect of postcolonial theory is the idea that wealthy, industrialized nations, often former colonizers, hold disproportionate power and resources in relation to developing nations, many of which are former colonies along with the continued exploitation and degradation of landscapes, cultures, people, and the planet in the name of white supremacy to enrich themselves at the expense of the developing world.[42] In fact, climate change itself is a manifestation of imperial policies of the past, and as Táíwò notes, the exploitative historical

[42] Yasser Ahmed, "Political Discourse Analysis: A Decolonial Approach," *Critical Discourse Studies* 18, no. 1 (2021): 139–155, https://doi.org/10.1080/17405904.2020.1755707.

political and economic structures of colonialism hamper the Global South from adequately addressing its impacts.[43]

In light of this, the speeches by President Biden (Table 5) and Frans Timmermans (Table 4) can be seen as reproducing these power dynamics in a number of ways. For example, President Biden's emphasis on the US as a "leading country" in fighting climate change, and his focus on "green growth initiatives" and "clean energy economy" can be interpreted as a continuation of the colonial mindset of wealthy nations dictating the terms of development for less wealthy nations. The United States is responsible for approximately 24.6% of the 1.69 trillion tonnes of CO2 emissions, which is significantly higher than its estimated 4.2% proportion of the global population (2021).[44] This disparity also applies to other high-income countries and regions such as Japan and the EU which account for about 58.7% of global CO2 emissions, even though they make up only 15% of the world's population today.Timmermans' call for other parties to take action, and his emphasis on the EU's role as a leader in cutting emissions, can also be seen as reproducing these power dynamics, as it implies that it is the responsibility of less wealthy nations to follow the lead of the EU.

Moreover, as depicted in Table 5, Biden's continued insistence on "clean energy technology" is a testament to the construction of hierarchies using a predetermined metric for industrialisation or development. Poorer nations are represented as "primitive" or "ill-equipped" since climate solutions are typically framed in terms of technological innovation and infrastructure readiness. Because of this hierarchy, the less developed nations are forced to follow the norms that are set for them and are constantly trying to catch up on an unjust playing field[45]. The range of action would be significantly limited if one rigorously adhered to a technocratic approach that depends on economic growth to promote technological innovation.

In addition to being hailed as the saviour, Biden's view on technology also discredits any other body of knowledge that is not built around the Western idea of science. People affected by climate change and policy makers rely heavily on knowledge about the impacts and causes of climate change, as well as potential solutions. However, colonial mindsets and practices continue to influence climate research and global climate

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43 Olúfẹ́mi Táíwò, *Reconsidering Reparations* (Oxford: Oxford University Press, 2022).

44 International Energy Agency (IEA), "Global CO2 Emissions Rebounded to Their Highest Level in History in 2021," 2022, https://www.iea.org/news/.

45 Warwick Anderson, "Introduction: Postcolonial Technoscience," *Social Studies of Science* 32, no. 5/6 (2007): 643–658.

governance, resulting in unequal distribution of knowledge and neglect of the perspectives of marginalized communities.[46] This is particularly evident in the Intergovernmental Panel on Climate Change, where there is ongoing debate about the need for diverse ways of knowing to inform and shape climate policy.

It is important to note here that the concept of diverse ways of knowing does not create distinctions between different forms of knowledge. Rather, it emphasizes the importance of recognizing and valuing different knowledge systems and ways of understanding and experiencing climate change within specific contexts, and actively working together to co-create knowledge. None of the speeches mentioned sharing knowledge, especially indigenous knowledge, to mitigate and adapt to climate change.

On the other hand, the stance of the UNFCCC secretariat as presented by the Executive Secretary (Table 3) can be interpreted as challenging these colonial power dynamics. The focus on the needs of the most vulnerable people, and the emphasis on the need for both mitigation and adaptation, as well as the need for transparency, can be seen as an attempt to level the playing field and ensure that the voices and needs of developing nations are taken into account in the implementation of the Paris Agreement. Additionally, the lack of focus on technological solutions and the sidestepping of the dependence of the global South on North based on technological advancement can be seen as an attempt to move away from the colonial mindset of developed nations imposing solutions on developing nations.

Additionally, a contrast between the global North and South countries during the negotiations leading to COP27 reveals an interesting dynamic. Typically, postcolonial scholars have criticized the North for promoting a fallacy portraying the global South as "developing", seeking monetary and economic aid. However, in the climate negotiations as described in section 2, it is the developing countries who are reasserting their distinct identity in relation to the global North, thereby soliciting further financial commitments from the North. Conversely, the North is trying to level the playing field by deconstructing the distinction between "developed" and "developing" nations.

In addition, equity in the distribution of costs and benefits of addressing climate change from a postcolonial perspective involves ensuring that the burdens and consequences of addressing climate change are not disproportionately borne by marginalized communities,

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[46] Raoni Rajão and Tiago Duarte, "Performing Postcolonial Identities at the United Nations' Climate Negotiations," *Postcolonial Studies* 21, no. 3 (2018): 364–378, https://doi.org/10.1080/13688790.2018.1482597.

particularly those in colonized or exploited countries.[47] This requires recognizing and addressing the historical and ongoing injustices that have contributed to the climate crisis and actively working to redistribute power and resources to enable marginalized communities to have a greater say in shaping climate solutions and accessing their fair share of the benefits.

Also, recognizing historical responsibility in the context of climate change through a postcolonial lens refers to acknowledging the role that colonialism and imperialistic actions have played in causing and exacerbating the current climate crisis. This perspective encourages a shift away from the traditional dominant Western-centric narratives and in the direction of a fairer and more inclusive strategy to addressing climate change that takes into account the perspectives and contributions of marginalized communities.[48]

Table 3 illustrates that the UNFCCC Secretariat predominantly refrains from referencing historical responsibility, opting for a neutral, scientific stance on climate policy. In contrast, while acknowledging loss and damage, the EU's terminology (Table 4) perceives the Global South as recipients rather than proactive decision-makers.

Although all three stakeholders that were a part of this analysis have called for greater inclusivity; however, neither the US (Table 5) nor the EU (Table 4) have admitted their role in bringing about the climate crisis and being the leading global emitters of CO2. Although vulnerable factions have been mentioned again and again and the need to facilitate them has also been reiterated however, their agency in solving the climate crisis has been ignored and the global South's dependency on the Global North for technology transfers and funding has been reiterated.

Equity in climate negotiations also implies recognizing the role of the developed countries in the current climate crisis and the need of developed countries to take more ambitious actions to tackle climate change. Equity also calls for a acknowledgement of the entitlements of indigenous populations and local communities that have a direct relationship with their land, territories, and natural resources and to

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47 Heike Schroeder, Maxwell T. Boykoff, and Laura Spiers, "Equity and State Representations in Climate Negotiations," *Nature Climate Change* 2, no. 12 (2012): 847–851, https://doi.org/10.1038/nclimate1742.

48 Sarah Mason-Case and Julia Dehm, "Redressing Historical Responsibility for the Unjust Precarities of Climate Change in the Present," in *Debating Climate Law*, ed. Benoit Mayer and Alexander Zahar (Cambridge: Cambridge University Press, 2021), 170–189, https://doi.org/10.1017/9781108879064.014.

respect their traditional knowledge and practices.[49] Neither of the stakeholders focused on any such aspects either.

To conclude, all three actors reinforce or challenge colonial power dynamics, which can be seen by linking their rhetorical choices to power structures, postcolonial narratives, and historical context using PCDA. By avoiding accountability for historical emissions and so avoiding controversy, the UNFCCC Secretariat utilises neutrality as a linguistic ruse to depoliticise climate negotiations. The Secretariat perpetuates the status quo by framing climate action as a collective global obligation while ignoring historical injustices, allowing wealthy nations to avoid accountability for their disproportionate involvement in the climate calamity. Nonetheless, its emphasis on inclusivity and openness indirectly challenges colonial power systems by emphasising the need for increasing participation from marginalised voices and the lack of institutional tools to support this transformation.

On the other hand, the EU's climate narrative presents the Global South as an inept recipient of climate funds and adaptation programs, portraying Europe as a climate change leader. Despite acknowledging loss and damage, the EU promotes its help as aid rather than compensation, maintaining donor-recipient dominance. The EU's unwillingness to acknowledge past carbon guilt and provide legally enforced reparations perpetuates neocolonial economic domination by keeping financial institutions under European control.

Lastly, Similar to Biden's climate address, technological determinism positions Western science and market systems as the foundation for solutions to climate change. This aligns with the colonial knowledge hierarchy, in which the Global North advances technologically while disregarding indigenous and localised knowledge. The absence of historical accountability exemplifies settler-colonial reasoning in US foreign policy, which disregards past injustices in favour of a future-oriented, commercially motivated approach to climate change. Western corporations are essential to the clean energy transition and contribute to maintaining economic dependency in the Global South, as green energy represents a commercial opportunity rather than a climate justice concern.

Conclusion

This paper aimed to explore how the discourse surrounding climate change at COP27 reproduces and/or challenges colonial power

[49] H. Schroeder, M. T. Boykoff, and L. Spiers, "Equity and State Representations in Climate Negotiations," *Nature Climate Change* 2, no. 12 (2012): Article 12, https://doi.org/10.1038/nclimate1742.

dynamics by analysing the speeches of the UNFCCC secretariat along with two major negotiating groups largely representative of the Global North namely the European Union and the Umbrella group at the high-level event of COP27. Overall, it was found that USA an EU reproduced the colonial power dynamics by projecting themselves as global leaders in curbing emissions despite being the major emitters themselves, focusing on western centric knowledge and technology as solutions to climate and representing the Global South as passive victims of climate change thereby reinforcing the idea that they are not capable of addressing the issue themselves, and that developed countries have a greater responsibility to do so.

Moreover, both countries have also failed to acknowledge the historical contributions of industrialised countries to climate change, thereby reproducing the idea that developing countries are primarily responsible for addressing the issue. Lastly, discourses by both stakeholders ignored indigenous knowledge and local perspectives of developing countries, thereby furthering the idea that the knowledge and perspectives of developed countries are superior.

The need to reduce emissions and strengthen our capacity to deal with the climate disaster at hand grows more urgent with each COP. However, despite a few glimpses of improvement, we are still far from taking climate action at the size and pace required to ensure an environmentally sustainable and robust future by 2050. The most recent NDS synthesis report demonstrates that although emissions will stop rising after 2030, there is still no proof of the sharp decline in emissions that scientists believe is required in this decade[50].

Equity in climate negotiations is required for them to be more adaptable to global crises and to make progress on climate change. To do that necessitates engagement with global power dynamics, most notably the colonial legacies ingrained in global geopolitics, given the close relationship between climate and larger structural imbalances. This implies that a more active transfer of power from the Global North to the Global South is necessary if the climate regime is to develop into one better prepared to address climate change. In addition, the recognition of the colonial roots of climate change is crucial, as is the possibility for decolonization and climate action to work together to inspire drastic transformation on an international scale.

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[50] UNFCCC, *Sharm El-Sheikh Climate Change Conference—November 2022* (UNFCCC, 2022), https://unfccc.int/cop27#attend.

CHARTING THE COURSE: PAKISTAN'S NAVAL MODERNISATION FOR A SECURE MARITIME FUTURE

Muhammad Hammad Waleed[*] and Shaheer Ahmad[**]

Abstract

Despite the financial and fiscal turmoil, the continuum of Pakistan's naval program is a precursor of the shift in its maritime strategic priorities. The shift from an offensive sea-denial strategy towards maintaining a sustained presence in the Indian Ocean Region (IOR) indicates renewed strategic priorities of protecting its vested maritime interests. The induction of Chinese-made frigates, submarines, and unmanned aerial platforms indicates Pakistan's anticipation of the changing security environment in IOR and numerical inferiority visa Vis India. Drawing examples from recent maritime conflicts in the Black Sea and naval force buildup in IOR, the paper proceeds to chart the course of modernization, especially in the context of unmanned Sea Vehicles and fostering public-private partnerships to meet the forthcoming challenges. Therefore, the study argues that the efforts to overhaul its existing naval fleet will chart the course for Pakistan's naval interests and quest for a secure maritime future.

Keywords: *Naval Modernisation, Indian Ocean Region, Maritime Security, Unmanned Systems, Deterrence*

Introduction

The geopolitical debates surrounding the IOR increasingly feature China and India's naval modernisation. Amidst this talk of town, little attention has been paid to Pakistan's naval capabilities. Despite the ongoing financial and political turmoil, the ongoing modernisation has shifted the focus of the Pakistan Navy from a force focused on coastal defense towards having a sustained presence to protect

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its maritime interests. Having cordiality and a mutual strategic purview with China, the induction of new frigates, corvettes, submarines, and unmanned aerial platforms will boost the existing capabilities of the Pakistan Navy, eventually augmenting its aim to maintain a sustained presence in the IOR. These efforts clearly indicate Pakistan's quest for a secure maritime future. Despite the country's efforts to modernise its fleet, it has been largely eluded from the contemporary naval mandarins. The prevailing Indo-centric threat perception, a complex interplay of great power politics, and the realisation of numerical inferiority visa vis India influence Pakistan's naval decisions that attain broader geostrategic imperatives.

Over the last two decades, Pakistan and China have pursued an ambitious agenda regarding maritime cooperation. It involves procuring technologically advanced Yuan class Type 039/41 class submarines through a $5 billion deal in 2016.[1] Pakistan is scheduled to procure eight submarines from China to strengthen its undersea capabilities. China's Shipping Industry Corporation is building the first four, while the remaining will be made in Karachi's shipyard, augmenting Pakistan's indigenous capabilities. These submarines are armed with advanced sensors and armaments, which will help Pakistan tilt the tactical balance of power in its favour. Considering these developments, Pakistan's maritime strategy is cognisant of the evolving maritime renaissance in the IOR. However, despite Pakistan's interest in procuring novel technologies, it largely remains a defensive force focused on coastal defense and sea denial. In addition, the Pakistan navy is vulnerable to offensive actions by the numerically and technically superior Indian navy. Currently, Pakistan cannot match its archrival India in its naval capabilities. Then there is a history of being flanked by the Indian Navy during the past Indo-Pak Wars, where Pakistan's maritime borders were subject to repeated intrusions and blockades. This is not to assert that Pakistan would seek a blue water naval force, but rather a formidable brown water navy that could efficiently protect the maritime territory and, if needed, employ a deep strike capability or ensure sea denial to adversarial naval assets. Nonetheless, its cooperation with China and Turkey will help transform it into a credible regional maritime power.

The study argues that the changing regional dynamics coupled with India's naval buildup in the IOR provide a pretext for Pakistan to chart its course for maritime modernisation. With the inherent sense of insecurity, strategic anxieties, and vulnerability in the face of a technologically superior Indian navy, Pakistan aims to transform its navy

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1 Reuters, "Pakistan PM approves deal to buy eight Chinese submarines: official," April 2, 2015, https://www.reuters.com/article/

from a defensive force towards a force able to sustain its presence and project its power in the IOR. Therefore, the current defense overhaul will enable Pakistan's navy to patrol its sea lanes, combat piracy, foster international cooperation, and protect its maritime interests in the IOR.

Methodology

The study is based on qualitative research methods. Data is primarily gathered through secondary sources such as books, journal articles, reports, media outlets and dissertations. Commentaries, newspaper articles and media reports have been added to facilitate the expert analysis of Pakistan's naval modernisation. Moreover, thematic analysis was used to analyse the data extracted from the secondary sources.

Pakistan's Naval Modernisation

"A strong navy we have always regarded as our proper first line of defense." Franklin D. Roosevelt's quote harbingers the significance of a country having a strong navy.[2] Pakistan is undergoing political instability and economic uncertainty crisis. This is evident from its precariously depleting foreign exchange reserves and economic instability. Pakistan was struggling to get the IMF bailout package to avoid a financial default two years back. However, despite all the entailing inconveniences, Pakistan's naval modernisation program has been on track.[3] The induction of Type 054-A/P frigates will consolidate navy's power projection capabilities in the face of an under-resourced fleet.[4] The frigates are equipped with advanced HHQ-16 surface-to-air missile systems and P-282 supersonic anti-ship weapons superior to the previous ones deployed on the existing PNS-Zulfiqar. Moreover, these systems have also been developed to withstand the threats from India's BrahMos supersonic anti-ship projectiles and budding carrier capabilities. With these developments, Pakistan expects a complete overhaul of its naval fleet by the end of this decade.

Historically, Pakistan's navy was overshadowed due to the primacy of land forces. The navy received lesser funds than other arms and was primarily a defensive force to guard the littorals against air and

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2 Naval History and Heritage Command, "Famous Navy Quotations," accessed on August 31, 2024, https://www.history.navy.mil/browse-by-topic/heritage/ famous-navy-quotations.html

3 Usman Ansari, "Outgoing Pakistan Navy Chief Reveals Details Of Modernization Program," Defense News, last modified October 15, 2020,

4 Usman Ansari, "Pakistan Receives New Chinese Made Frigate. How It Will Fare Against India's Navy?" Defense News, last modified November 9, 2021, \

seaborne aggression. However, the shifting geopolitical tectonics and growing maritime significance in the IOR have brought the dwarfed fleet into the limelight. The guided-missile frigate Tughril—the most sophisticated vessel-- was inducted into the existing fleet in January 2022. Armed with both surface-to-air and supersonic surface-to-surface missiles, the vessel is equipped to undertake critical missions, including anti-surface warfare, anti-submarine warfare, anti-aircraft warfare, and low radar observability. Tughril Class is the most formidable induction in Pakistan's naval fleet. Despite the numerical inferiority and lack of capabilities to match India's burgeoning naval capabilities, these frigates have enabled the Pakistan navy to undertake operations in far-off waters.

Lately, Pakistan also commissioned PNS Taimur armed with HHQ-16 and P-282/CM-401 to counter India's Brahmos supersonic missiles and growing career capabilities. In addition, the Pakistan Navy is expecting to induct a more robust platform to overcome its fleet weakness in terms of malfunctioning engines, obsolete imaging equipment, and radar challenges coupled with other technological pitfalls. Recently, the Pakistan Navy commissioned its first MILGEM-class Babur corvettes, to enhance potency in the navy's operational efficiency. President Asif Ali Zardari stated that employing state-of-the-art vessels is a significant milestone that matches its ever-growing operational responsibilities. Furthermore, Pakistan is eyeing to develop its Jinnah-class frigate in collaboration with Turkish partners. These frigates are expected to be delivered to Pakistan over the next five years.[5]

Amidst the modernization drive, the Pakistan Navy realize the significance of building indigenous capabilities. According to Pakistan's naval chief office, Pakistan needs to focus on indigenisation and rely on diverse sources to mitigate its dependence on external sources and fulfill operational needs. This strategy will help Pakistan chart its needs and navigate the financial bottlenecks. Despite having an indigenous naval program, the local industry is limited to a handful of onboard systems, and steel production is not taking place locally. Despite all the efforts, questions arise regarding the viability of air defense and sub-marine hunting capabilities. The existing FM-90B has a limited firing range of 15 km[6], making it hard to intercept the incoming anti-ship missiles, thereby compromising the frigate's air defense capabilities. Likewise, the

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5 Global Defence News, "Pakistan to start JCF Project with Karachi Shipyard," September 30, 2023, https://turdef.com/article/pakistan-starts-jcf-

6 Missile Defense Advocacy Alliance, "Missile Threat and Proliferation," assessed on October 1, 2024, https://missiledefenseadvocacy.org/missile-threat-and-proliferation/todays-missile-threat/

submarine hunting capability is hindered due to the greater acoustic signature of a diesel-powered engine of Zulfiqar-class frigates (F-22P).

On the other hand, the advent of UAVs has transformed the dynamics of warfare in the air, sea, and land. Visuals from the Russia-Ukraine war and the Nagorno-Karabakh conflict demonstrate how the legacy battle systems, such as frigates, ships, and tanks, were helpless against the relentless precision of drones. Notably, Russia's colossal Black Sea Fleet was continuously battered by the untethered assaults by Ukraine drones. The modified explosive-laden jet skis proved lethal against Russia's guided class cruisers.[7] These changing trends have prompted the Navy to acquire robust UAV platforms to upgrade the existing inventory. In this regard, it acquired the CH-4, which is a medium altitude long-range endurance (MALE) drone acquired by China. Similarly, domestic efforts are underway to develop nuanced surface and underwater vehicles.[8] Moreover, Pakistan's Bahria Boat Building Yard developed the first domestically manufactured 12T marine assault boat as a part of a technology transfer agreement with Polish company Techno Marine.[9]

These developments indicate that the Navy is aware of the changing regional dynamics, fluctuating military balance, and growing responsibilities in the IOR. The increasing challenges to combat piracy, maintain freedom of navigation, preserve maritime interests, and power projection in the IOR require a robust naval force able to conduct maritime intelligence, surveillance, and reconnaissance missions. Similarly, a robust naval presence in the IOR will also help pursue blue diplomacy in international waters, transforming it into a solid regional force in the tense geopolitical environment.

Induction of New Platforms

Tughril Class/ Type 054-A

The Type 054-A is acknowledged as the backbone of the People's Liberation Army Navy (PLAN) fleet. It is a high-end naval combat vessel that is often deployed in the East and South China Seas in a bid to demonstrate its naval power. It is widely believed that due to its resilience, it is likely to constitute an integral part of China's career strike group. The

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7 Joseph Ataman, Frederik Pleitgen and Daria Tarasova-Markina, "A Ukrainian Pilot Outlines How Drones Powered By Jet Skis Sunk A Russian Warship," CNN, February 5, 2024, https://edition.cnn.com/2024/02/05/europe/

8 Gabriel Dominguez, "Pakistan Receives Five CH-4 Uavs From China," Janes, January 27, 2021, https://www.janes.com/defence-news/news-detail/

9 Usman Ansari, "Pakistan Launches First Locally Build Assault Boat," Defense News, December 13, 2022, https://www.defensenews.com/naval/2022/

134-meter-long frigate can harbor 165 sailors and has a four thousand tons displacement capacity.[10] It is equipped with a Chinese-origin H/PJ-26 main gun, CM-302 anti-ship missiles, vertical launch HQ-16, Type 730 Close in weapon system (CIWS), and triple torpedo launchers which bolster its air defense and anti-submarine warfare (ASUW) capability.

Type 054-A is pertinent to Pakistan's naval fleet's surface warfare capabilities. The frigates are equipped with a 32-cell H/AKJ-16 VLS. These VLS can host tube-launched torpedoes and air defense missiles. Due to its high rate of fire, modularity, and operational readiness, these systems harness greater efficiency than traditional SAM launchers in the existing surface fleet. Moreover, the vessels are also armed with LY-80N medium-range air defense missiles providing a cover of nearly 40 km. LY-80 has a commendable interception ratio, which can engage a variety of airborne threats, including missiles and aircraft. Furthermore, warships house SR-2410C 3-D functioning electronic scanned array radar, capable of tracking nearly 150 targets from a range of 250 km. The radar is resilient to any jamming or suppression methods and a robust addition to the navy's surface capabilities. In addition to this, Type 054-A are incrementally modulated to carry four CM-302 subsonic anti-ship missiles. These projectiles are expected to reach Mach 3 speed in the terminal phase by using ramjet propulsion. These long range, sea-skimming, and terminal dash weapons will augment Pakistan's Navy standoff strike capability with superior air defense penetration capabilities.

Pakistan has received a consignment of these frigates in the preceding years. The first Type 054-A (PNS Tughril) was commissioned on November 8, 2021.[11] The second ship, PNS Taimur, was inducted on June 23, 2022.[12] While the third and fourth ships PNS Tippu Sultan and PNS Shah Jahan were simultaneously inducted on May 10, 2023.[13] These ships are believed to be the frontline combatants of the Pakistan Navy in the face of any crisis or standoff in the Arabian Sea. Contrary to the previous Zulfiqar class frigate, the Type 054A class houses long-range surface-to-air missiles (SAMs). Hitherto, on the ASUW front, modern CM-302 missiles

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10 Naval News, "Pakistan Navy Commissions New Type-054 A/P Frigate 'PNS Tughril'," January 24, 2022, https://www.navalnews.com/naval-news/2022/01/

11 Dorian Archus, "Pakistan Commissioned The First Type 054 A/P Frigate," Naval Post, November 9, 2021, https://navalpost.com/pakistan-commissioned-the-first-type-054/.

12 Tayfun Ozberk, "Pakistan Navy Commissions 2nd Type 054 A/P Frigate 'PNS Taimur'," Naval News, June 24, 2022, https://www.navalnews.com/naval-

13 Tayfun Ozberk, "Chinese Shipyard Delivers Final Two Type 054 A/P Frigates To Pakistan Navy," Naval News, May 11, 2023, https://www.navalnews.com/naval-news/2023/05/

with a range of 290 km provide credible submarine hunting capabilities. Moreover, there seems to be no improvement regarding anti-surface warfare capabilities as it acquires the same systems as the PNS-Zulfiqar. However, the frigate is expected to replace the already obsolete *Tariq Class destroyers.*

The induction of these vessels will enhance the Pakistan Navy's surface warfare capabilities, consolidate its ability to secure the sea lines of communication and prevent attacks from potential adversaries. In the face of an adverse security environment in the IOR, Tughril class frigates augment Pakistan's naval capabilities to guard its littorals and maintain a credible foothold.

PNS Babur

On September 6, 2024, the Pakistan Navy held an induction ceremony for its first MILGEM class corvette, PNS Babur (P-280), at the Karachi dockyard. President Asif Ali Zardari inaugurated the induction of a Corvette into the Pakistan Navy's fleet.[14] The corvette has been jointly developed by Karachi Shipyard and Engineering Works (KS&EW) and Istanbul Naval Shipyard (INSY) of Turkey. Babur class is considered a variant of the Ada-class corvette operated by the Turkish Navy. Unlike the Ada class, which is primarily developed for anti-submarine warfare (ASW), the Babur class can perform additional tasks of anti-air warfare (AAW) and anti-surface warfare (ASuW).

As a robust platform against air, surface, and subsurface threats, the Babur class has a length of 108.8 meters, a width of 14.8 meters, a draught of 4.05 meters, and a displacement of nearly 3000 tons. In addition, a combined diesel and gas (CODAG) arrangement attains two MTU 16V595 engines and a GE LM2500 gas turbine which thrusts the corvette to a speed of 31 knots. The ship can stay at sea for 15 days and operate for extended periods.

Babur-3 is equipped with six P-282 anti-ship cruise missiles, 12 Albatros NG surface-to-air missiles, Mark 32 324mm torpedoes, a Leonardo 76 mm rapid naval fire gun, and an Aselsan GOKDENIZ 35 mm close-in weapon system (CIWS) for point defense against incoming missiles and low-flying airborne threats. Two ASELSAN STOP 25mm autocannons are also fixated on remote weapon stations. Furthermore, the

[14] Tayfun Ozberk, "Pakistan Commissions PNS Babur Corvette and PNS Hunain OPV," Naval News, September 7, 2024, https://www.navalnews.com/naval-news/2024/09/

HIZIR decoy countermeasure system is installed to shield the ships from torpedo attacks.[15]

Due to the precarious geopolitical situation in the IOR, the Babur-class enhanced the Pakistan Navy's maritime position to counter traditional and non-traditional challenges. The induction of these corvettes will consolidate Pakistan's Potemkin naval fleet and enable it to meet the ever-increasing operational responsibilities.[16] Also, it will facilitate the Pakistan Navy's new posture of maintaining a sustained presence in the IOR.

PNS Hunain

In line with the induction of Babur-class corvettes, the Pakistan Navy has inducted the first Yarmook-class Batch II offshore patrol vessel (OPV): PNS Hunain. The newly commissioned vessel is a multipurpose and agile platform of medium size tonnage. The ship is capable of undertaking tasks in electronic warfare, anti-air, and anti-ship warfare equipped with terminal phase defense systems. In addition, the ship can house a multirole helicopter can operate independently as a part of a Task Force, and can execute numerous missions while safeguarding the maritime interests of Pakistan.[17]

PNS Hunain is based on Damen's OPV-2600 design, which is more technologically capable than the already existing PNS Yarmook and PNS Tabook in Pakistan's naval fleet. The vessel is capable of boarding surface-to-air missiles from a vertical launch system (VLS), granting Pakistan Navy credible short to medium-range air defense capabilities. Similarly, Pakistan is expected to configure PNS Hunan with Anti-ship cruise missiles (ASCM), air and surface surveillance radar, a multirole helicopter, and electronic support measures suite. However, the prime role of PNS Hunain will revolve around supporting maritime policing, which includes anti-piracy, anti-smuggling, counter-insurgency, and counterterrorism operations. Moreover, PNS Hunain is also expected to perform the tasks of anti-submarine warfare, humanitarian and disaster relief (HADR), and minesweeping missions.

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15 Baird Maritime, "VESSEL REVIEW | Babur – Pakistan Navy Corvette To Take On Air Defence And Surface Warfare Missions," July 15, 2024, https://www.bairdmaritime.com/security/naval/naval-ships/

16 Bilal Khan, "Pakistan Receives First Yarmook-Class Batch-II OPV (PNS Hunain)," Quwa, July 29, 2024, https://quwa.org/quwa-premium/

17 Associated Press of Pakistan, "Pakistan Navy Commissions 3rd offshore patrol vessel PNS HUNAIN in Romania," assessed on October 31, 2024, https://www.app.com.pk/national/

The vessel will augment the Pakistan Navy's operational capabilities, enhance forward presence, and consolidate its operational readiness in tandem with its deployment at Regional Maritime Security Protocols in the IOR. Similarly, it will allow the Pakistan Navy to transition from offensive sea denial toward a more concrete forward presence in the Arabian Sea and IOR in the face of a growing assertive and risk-tolerant India.

Undersea Capabilities

Historically, submarine forces remained a cornerstone in Pakistan's maritime calculations. In 1964, Pakistan purchased its first submarine, PNS Ghazi, from the US. This purchase was followed by new submarine additions to augment the undersea capabilities of the Pakistan Navy. Between 1969 and 70, Pakistan purchased an additional three Daphne-class submarines from France.[18] After losing PNS Ghazi to a tragic accident during the Indo-Pak war in 1971, Pakistan procured a second-hand Daphne-class vessel from Portugal in 1975. Furthermore, two Agosta-70 class submarines were acquired to boost the ageing fleet. Pakistan procured three Agosta-90B boats from France Naval Group SA in 1994. These fleets constitute an integral part of Pakistan's Navy offensive sea denial strategy.

South Asia remains an active nuclear flashpoint, where nuclear-tipped projectiles in the inventories of both Pakistan and India pose a looming threat of a doomsday scenario. Hereby, submarine forces remain a lynchpin in Pakistan's nuclear posture to maintain its credible minimum deterrence. With five diesel-electric submarines and three mini-submarines, Pakistan needs to strengthen its undersea capabilities to respond to the evolving threat matrix in the region. The current fleet comprises two Agosta-70 boats and three modern Agosta-90B submarines of French origin. KS & EW constructed the indigenously third Agosta-90B PNS Hamza, commissioned in 2008. PNS Hamza attains French company Module d'Energie Sous-Marin Autonome (MESMA) air-independent propulsion AIP) system, making it the first submarine constructed in South Asia with an AIP system.

Initially, the Pakistan Navy had no intention of arming its submarines with nuclear arsenals. In 2003, the former chief of naval staff, Admiral Shahid Karimullah, stated that Pakistan had no intention of arming its submarines with nuclear-tipped missiles unless it was compelled by India to do so. However, in January 2017, soon after a

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[18] Pakistan Navy, "Submarine Force History," assessed on November 1, 2024, https://www.paknavy.gov.pk/submarine_history

month, India test-fired its Agni-V Intercontinental ballistic missile (ICBM); Pakistan successfully tested its first nuclear-capable submarine-launched cruise missile (SLCM), Babur-3. According to an analyst, Babur-3 is a testament to Pakistan's pursuance of a credible sea-based deterrent.[19]

Babur-3 is primarily a response to India's triad of air, land, and sea-based nuclear deterrents. According to Pakistan, Babur-3 will grant Pakistan a credible second-strike capability. The projectile is largely believed to be carried by the Agosta 90B submarine and has an estimated range of 450 km. In addition, technological advancements in the undersea capabilities worldwide have prompted the Pakistan Navy to improve its undersea capabilities. India's rapid advances in the ASUW capabilities underscore Pakistan's need to modernise its undersea arsenal. For this purpose, China is set to deliver the Type-039B Hangor II submarine by the end of 2024. According to Aaron Amick, Type-039B is an excellent conventional submarine despite all the reservations regarding the German-originated engines.

Including Type-039B is an intelligent decision by the Navy as it features a robust and low-cost addition to its inventory. Adding the indigenous weapons systems to this variant will make it more powerful. It is worth noting that these submarines can fire the Babur-3 nuclear-capable projectile to 280 miles. This combination of stealth and nuclear capability will help transform the tactical balance of power in its favour. Similarly, these submarines will help narrow down the force asymmetry visa Vis a technologically and numerically superior Indian navy.[20] Moreover, the Hangor-II will help Pakistan maintain an effective sea denial strategy in the face of tensions. Previously, Pakistan has tried to enhance its sea-based deterrent by inaugurating the Naval Strategic Forces Command Headquarters and unveiling a low-frequency communication facility for the submarines in 2012 and 2016, respectively.

As India is modernising its naval arsenals in the face of fraught geopolitics in the IOR, the induction of Hangor-II is a significant step in bolstering Pakistan's naval leg of second-strike capability. A more flexible, numerically feasible, and sustainable submarine fleet can serve as a credible deterrent in future crises. In this regard, the Hangoor-II is an essential addition to the existing naval fleet. Despite all the financial and fiscal constraints, the continuum of the naval program indicates that

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19 Ankit Panda, "Pakistan Conducts Second Test of Babur-3 Nuclear-Capable Submarine-Launched Cruise Missile," The Diplomat, April 1, 2018, https://thediplomat.com/2018/04/pakistan-

20 Usman Ansari, "Pakistan and China Launch Joint Naval Drills. Should India Be Concerned," Defense News, last modified January 8, 2020, https://www.defensenews.com/digital-show-dailies

Pakistan is concerned about its role in the IOR. A force focused on an offensive sea denial strategy towards a force aiming to maintain a sustained presence in the IOR indicates the realisation of the changing maritime situation in the region. Pakistan's quest for a defense overhaul requires time because a weak navy is like a ship without sails.

Unmanned Platforms

The advent of unmanned aerial vehicles (UAV) has altered the calculus of modern warfare in all three domains: air, sea, and land. Pakistan Air Force remained prudent in incorporating UAVs into its fleet and raising drone battalions. Due to strategic necessity, the Pakistan Navy also follows suit by adding UAVs to its inventory. Currently, Pakistan is the fourth largest operator of UAVs, which underscores its anticipation of the unfolding of modern warfare. In 2011, the Pakistan Navy inducted its first fleet of reconnaissance drones: the Uqab series drone.[21] The UAV has been developed by the National Engineering and Scientific Commission (NESCOM) under the umbrella of the Strategic Planning Division (SPD). Even before the induction, the drones have been flown and tested across the Gwadar coast.

These drones were force-multipliers and specifically designed for the mid-range tactical UAV. They could also be used for maritime interdiction operations in coastal areas. It can also be deployed to conduct surveillance on the naval ships operating adjacent to the areas of the Pakistani coast. Earlier to this, the Pakistan Navy also integrated the US ScanEagle UAV into its fleet in mid-2010. The UAV was equipped with catapult launch and retrieval via the SkyHook system and was integrated to fulfil the operational needs of the Pakistan Navy. Pakistan procures most of its UAVs from China, Turkey, Italy, and the US, which is complemented by its indigenous efforts to develop UAVs at NESCOM and Pakistan Aeronautical Complex (PAC) Kamra.

In addition, the Pakistan Navy accelerated its efforts to acquire armed drones for maritime purposes. Later, it was confirmed by the Chief of Naval Staff that the UAVs were CH-4Bs procured from Chinese partners. In September 2022, OSINT observers identified an additional Ground Control Station (GCS) at Turbat airbase, coupled with three ISO 40 ft. sized containers used for the UAV transportation as well as 20 ft. containers to hold spare parts of the UAV. Although OSINT didn't find any images of the UAV, a tender released by the Pakistan Navy to construct support facilities for CH-4 at Turbat confirmed the arrival of Chinese UAVs at Turbat

[21] Salman Siddiqui, "Navy Inducts First Fleet Of Reconnaissance Drones," The Express Tribune, July 20, 2011.

airbase.[22] These drones are expected to be equipped with synthetic aperture radar (SAR) for maritime ISR, complementing the already present P-3C Orion's maritime patrol aircraft.

Furthermore, there are indications of interoperability between the Pakistan Navy and the Pakistan Army Aviation Corps. For instance, numerous army aviation Burraq UAVs were deployed alongside CH-4Bs at the Turbat airbase. Similarly, Pakistan's naval chief gave an interview to Turkish Defense where he revealed that the Pakistan Navy is seemly poised to acquire Bayraktar TB-2 drones, making it the second Pakistani operator of Bayraktar after PAF. TB-2 is likely acquired to replace the phased-out Uqab-II series.

Charting the Course: Towards a Secure Maritime Future

The geopolitical dynamics of the Indian Ocean are in continuous flux. The spillover of great power competition in the coastal Rimland of Eurasia necessitates the regional powers to calibrate their regional policies accordingly. Being in the US-backed Quadrilateral Security Cooperation, India is now realigning its maritime prowess to make itself a counterweight to China. India's longstanding aim to achieve 'three dominances' in South Asia has rejuvenated its maritime strategic vision, which isevident in its maritime doctrines, military modernisation program, and assertive posture of the Indian Navy in the Indian Ocean. This transformed regional calculus is mainly aimed at the security of the sea lines of communication (SLOC) and deterring the nuclear neighbours, particularly Pakistan and China.

This precarious security situation has raised eyebrows in Pakistan, whose strategic culture is influenced by three factors: etched hostility with India, the perceived threat of a two-front war with Afghanistan and India, and the perception of a lack of strategic depth due to its population concentration and infrastructure along the Indus River.[23] These factors have made Pakistan averse to Indian designs thereby prioritising defense, forging, and seeking military alliances. Moreover, the Indian navy's aggressive buildup raises the risk of an arms race between the regional rivals.[24]

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22 Farooq B, "Updates to Pakistan's Drone Fleet," Quwa, Januaray 13, 2023, https://quwa.org/daily-news/updates-to-pakistans-drone-fleet/.

23 Hasan-Askari Rizvi, "Pakistan's Strategic Culture," in South Asia in 2020: Future Strategic Balances and Alliances, (2002): 305-328, https://www.jstor.org/stable/resrep12079.14.

24 Walter C. Ladwig III, "Drivers of Indian Navy Naval Expansion," in Harsh V. Pant (ed.), *The Rise of the Indian Navy: Internal Vulnerabilities, External Challenges* (London: Routledge, 2012): 19-40.

Due to the perception of a lack of strategic depth, Pakistan's overall force posture has been focused on deterrence by denial. A similar doctrinal mindset persists in the Pakistan Navy, too, where the development of its sea-based nuclear deterrent is aimed at countering evolving India's naval program.[25] In 2012, Pakistan established its naval strategic command at its naval headquarters. Even before this, senior officials from the Pakistan Navy claimed to have the ability to deploy nuclear weapons at sea. In 2017, Pakistan test-fired its Babur-3 SLCM. However, the ambiguity around credible second strike capability persists because Babur-3 is incapable of long-range counter-value targeting.

With a relatively smaller fleet, Pakistan's ability to respond to Indian aggression are limited. Nonetheless, Pakistan's maritime posture looks similar to a proactive maritime actor in the IOR.[26] This is evident through the sighting of Indian submarine which was subsequently foiled by Pakistan navy from entering the coastal waters. In this regard, Pakistan's naval buildup is centered on defending itself from any possible incursion by Indian navy which is increasingly assertive due to its burgeoning maritime capabilities. In past, Pakistan neglected the maritime domain on economic and military fronts.[27] However, the current modernisation program is aimed to strike balance with Indian navy and maintain a favorable balance of power in Arabian Sea and IOR.

The strategic environment in the Indian Ocean has rapidly transformed in the past decade. One formed to combat non-traditional challenges and conduct disaster relief, QUAD has now transformed into a full-fledged platform of military exercises between the US, India, Australia, and Japan. Similarly, signing the Basic Exchange and Cooperation Agreement (BECA) and procuring P8I Poseidon maritime patrolling aircraft has brought India into a dominant position in the IOR. Furthermore, the US has deployed its nuclear ballistic missile submarine at Diego Garcia, an isolated base in the IOR. Along with this, the controversy surrounding the AUKUS deal has sparked the debate about the potential nuclearisation of the Indian Ocean, which complicates the regional security dynamics.

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25 Khuram Iqbal etal., "Major Power Competition In The Indian Ocean And Doctrinal Development In Pakistan," *Comparative Strategy* 42, no. 4 (2023): 509-527.

26 Ghazala Yasmin Jalil, "India's Development of Sea-based Nuclear Capabilities: Implications for Pakistan," *Strategic Studies* 38 (1), 34-37.

27 Sajid Mehmood Shahzad and Aleem Gillani, "Maritime Security: A Case Study of Pakistan," *Journal of Nautical Eye and Strategic Studies* 2, no 1 (2022): 25-32.

On the other hand, China has emerged as a pacing challenge to the Euro-Atlantic order. With its burgeoning energy and economic appetite, its interest in the IOR has increased manifold. Though chiefly commercial, docking of Chinese naval ships at Djibouti and growing commercial footprint in Gwadar and Hambantota ports is a harbinger to increasing Chinese naval presence in the future.

Pakistan's naval modernisation is powered by a strategic necessity to secure its coastal line. Historically, the Pakistan Navy remained a significant actor in the Combined Maritime Forces (CMF) to oversee the security of the Western Indian Ocean. Pakistan Navy also commanded CMF's Combined Maritime Taskforces 150 (maritime security) and 151(counter-piracy). However, Pakistan's growing relations with China have posed a tougher choice of navigating the geopolitical waters in the IOR. This is evident through the securitisation of the maritime domain due to growing Sino-Pakistan cooperation under the umbrella of the China-Pakistan Economic Corridor (CPEC).[28]

On the other hand, Indian Navy is capitalising its geopolitical alignment with the US by continuously striving for the uncontested dominance in the IOR. Despite competitive deficiencies in operational readiness and capabilities, it is believed that Indian Navy will be capable of power projection in Strait of Hormuz and Malacca Straits.[29] In this regard, India's nuclear submarines and aircraft carriers will provide a robust bastion to guard its littorals. These enlargements particularly the development of a nuclear-powered submarine INS Arihant presents a convincing case for the Pakistan Navy to develop a nuclear missile submarine. Muhammad Azam Khan, the author of Pakistan's maritime doctrine, also believes that the INS Arihant has been active in the close and adjacent waters of Pakistan's coast for information gathering and reconnaissance purposes.[30] Although futile—as nuclear missile submarines are rarely used for tactical-level tasks such as intelligence and information gathering—it allows the Pakistan Navy to actively advocate for the sea-based deterrent or a second strike capability. Pakistan navy watchers also believe that the navy is ready and capable of fielding a sea-based nuclear weapon to enhance its strategic force posture in the Arabian

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28 Khuram Iqbal etal., Securitization of the Maritime Sector In Pakistan," *Comparative Strategy* 43, no 6 (2024): 734-748.

29 Syed Qandil Abbas and Umme-Habiba, "Maritime Power Play in the Indian Ocean and Challenges for Pakistan Navy," *NUML Journal of Research in Social Sciences* 11, no 1 (2023): 19.

30 Muhammad Azam Khan, "The Developing 'Strategic Depth' And 'Full Spectrum Deterrence'," The News, December 3, 2016, https://www.thenews.com.pk/ print/169366-.

Sea and the IOR. The acquisition of sea-based deterrents will also grant the Pakistan Navy greater leverage in the strategic corridors of visa Vis Pakistan Army, which has dominated the security establishment.

Hitherto, the integration of new platforms, particularly surface warfare, undersea warfare, and unmanned agents, reflects the Pakistan Navy's aspiration to maintain a strong foothold in the IOR. The Pakistan Navy's modernisation is a concrete effort to transform itself from a green-water navy to a more coherent and robust regional role.

Although Pakistan is interested in novel and modern naval technologies, India still maintains an edge due to its technical and numerical superiority, which is also majorly due to ease of access to Western and Russian technology, whilst the Pakistani military has intermittently faced sanctions and restrictions. The Arabian Sea drill is the largest demonstration of Indian operational capabilities in the IOR. The exercise included two aircraft carriers, numerous warships, and submarines coupled with thirty-five frontline planes in the wake of the heating dynamics of the region. The exercise represents the Indian ambition of having heightened maritime security and power projection capabilities in the IOR. While Pakistan's naval capabilities are discussed in New Delhi's policy circles, they are significantly eluded despite Pakistan's efforts to overhaul its existing fleet.[31] The mega exercise in the Arabian Sea is a reality check for Pakistan due to India's demonstration of the smooth integration of two aircraft carriers coupled with Mig-29K aircraft and MH-60R helicopters. Likewise, the synergising of the flotilla of frigates, submarines, and ships demonstrates India's improved network-centric warfare capabilities.

The drill also enabled India to station its carriers flexibly in the IOR and beyond. It enabled India to maneuver flexibly, maintain intra-operability, and maintain a sustained presence of sea-based airpower in the wake of any conflict. On the other hand, Pakistan's modernisation of its naval fleet is significant. However, it is not sufficient to credibly challenge the Indian Navy's control of the high seas.

Overall, Pakistan's navy will remain a defensive force and will likely continue this course shortly. Following the current trend, Pakistan's focus on preserving its maritime interests, combating piracy, providing disaster relief, and contributing its efforts to maintain a peaceful naval order will prompt it to enhance its anti-access/area denial capabilities. It will deny the adversary's capabilities to operate freely in the Arabian Sea and the IOR. However, the gradual increase in the existing capabilities will

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31 Aditya Bhan, "Project-751 Submarine Acquisition: Should the Indian Navy relax Air-Independent Propulsion Requirement," Observer Research Foundation, August 30, 2022, https://www.orfonline.org/expert-speak/ /?.

pose challenges to the Indian Navy and will help it to sustain its foothold in the IOR.[32]

Understanding Pakistan's naval modernisation requires a careful consideration of the significance of sea power.[33] Given India's increased power projection capabilities, sustaining maritime presence and maintenance of sea-based air power through carriers have caused alarm in policy circles. The recent Arabian drill demonstrated the heightened Indian power projection capabilities and flexible interoperability in the IOR. In this regard, Pakistan needs to enhance its existing A2/AD capability as it remains largely a defensive force. In the wake of the current maritime doctrine, Pakistan is focused on maintaining a sustained presence in the IOR; this will affect the current naval dynamics in the region as the force aiming to maintain an offensive denial strategy is now focused on a sustained presence in the IOR. It will primarily affect the maritime equations in the future.

Recommendations

Considering the dynamics of the IOR, the study suggests a few recommendations for the Pakistan Navy in the IOR.

Scrutinising Existing Doctrines

A famous naval pundit stated that *doctrine is the soul of warfare.*[34] Against this backdrop, Pakistan needs to scrutinise its existing maritime doctrine and operational concepts where the possibility of deterrence failure should be given precedence. In this regard, both states need to sign confidence-building measures and encourage cooperation on inadvertent and accidental breaches of the territorial waters.

Joint Forces Synergy

Due to limited financial resources, the Pakistan Navy needs to augment its capabilities by increasing its intra-operability and collaboration with the Pakistan Air Force and Pakistan Army Aviation to monitor the sea lanes, conduct reconnaissance operations, and provide

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32 Aditya Bhan, "The Indian Navy's Arabian Sea Exercise is a reality check for Pakistan," Observer Research Foundation, July 24,2023, https://www-orfonline-org.cdn.ampproject.org/c/s/www.orfonline.org/

33 Alfred Thayer Mahan, *The Influence of Sea Power Upon History,* (Boston: Little Brown and Company, 1890), https://archive.org/details/seanpowerinf00maha.

34 Julien Corbett, 'Staff Histories', In Naval And Military Essays (Cambridge: Cambridge University Press, 1914), 24.

necessary air cover in case of conflict. This would include more joint exercises that train personnel in inter-branch coordination and standardisation in handling contingencies. This not only enhances wartime operational readiness but also induces flexibility for peace operations in which Pakistani military branches often participate, such as floods, earthquakes, sea disasters, and humanitarian operations.

Investing in Airborne Early Warning and Control (AWEC) Systems

Pakistan is currently focusing on its existing submarine and surface water fleet. Nonetheless, it must focus on updating its AWEC systems to facilitate airborne early warning and control. It includes integrating new platforms and utilising UAVs to enhance situational awareness in the IOR. Doing so will help generate early warning for naval assets in the wake of suspicious moves in territorial waters. In addition, unmanned maritime surveillance systems would need to be integrated, first as an augmenting element to existing Maritime patrolling aircraft and eventually becoming a lynchpin of maritime surveillance, command, and monitoring platforms. Such drones can fly for longer durations and monitor wider areas with their sensor technologies, especially in Signals and Electronic intelligence collection (ELINT and SIGINT). Chinese systems like the BZK-005 and modernised Wing Loong Series drones can be versatile platforms that can be used for maritime monitoring as well as sea denial capabilities through their armed variants.

Including Unmanned Sea Vehicles as Mainstay Naval Assets

The Russia-Ukraine war has transformed into a testing ground for modern warfare technologies, with unmanned systems at the forefront. Ukraine's strategic deployment of sea drones has emerged as a significant factor in challenging Russian naval supremacy in the Black Sea. Sea drones like the Sea Baby and Magura V5 have been instrumental in targeting and damaging Russian vessels, compelling the Russian Navy to reconsider its deployment strategies in the Black Sea.[35]

Developing Sea-based drones and eventually drone swarms can circumvent the need for larger, more expensive vessels, which also bring with them higher maintenance costs. Since Pakistan's Naval operations would mostly be conducted in a 500 to 1500 km radius, these drones can

[35] Malsin, Jared. "Ukraine's Sea Drones Alter Balance of Power in Black Sea." Wall Street Journal, August 11, 2023, sec. World. https://www.wsj.com/ articles/ ukraines-sea-drones-alter-balance-of-power-in-black-sea-391cebee.

be decisive and formidable challenges to adversaries' assets. Ranges can even be extended if these assets are launched from a naval mothership outside littoral waters.

Public-Private Partnership

Pakistan needs to emphasise more on the public-private partnership and reduce the military stranglehold on the defense industry. Including the private sector will contribute to capacity building and cost-effectiveness. It will also enhance Pakistan's indigenous capabilities to develop more local systems, which will help to save the dollars drained on importing sophisticated systems from external sources. Examples from PAF's initiative of National Aerospace and Technology Park (NASTP) are worth mentioning. Such initiatives in the maritime domain will be a step towards self-reliance and a decrease in dependence on external sources.

Conclusion

Pakistan's naval modernisation is a testament to its ambition to become an influential navy in the IOR amidst great power competition. As regional geopolitical competition veers to the sea, echoes of Mahan's ethos are being heard in the maritime corridors. The entry of great powers coupled with India's aspirations, particularly through the development of submarines, fundamentally threatens Pakistan's maritime security and strategic stability. It also undermines Pakistan's claimed full spectrum deterrence (FSD). Having a hostile government in the east, Pakistan needs to consolidate its maritime strength to keep pace with the changing regional dynamics.

Traditionally, Pakistan has been fixated on land warfare; however, being glued to this assumption will potentially threaten Pakistan's national security. Without having a credible second-strike capability, Pakistan's nuclear posture remains incomplete. Currently, Pakistan's AIP submarines aren't capable of targeting distant targets in the east, which means that India's counterforce targets at Vishakhapatnam remain unthreatened in the case of conflict. Therefore, Pakistan needs to take cues from the changing geopolitical equations and chart its maritime course to secure its interests shortly.

INDIA'S NAVAL MODERNIZATION IN THE INDIAN OCEAN REGION: ANALYZING THE COMMISSIONING OF THE NEW NAVAL BASE, INS JATAYU

Mahwash Anwar[*] and Dr. Irfan Hussain Qaisrani[**]

Abstract

Naval modernization in the Indian Ocean Region is a prerequisite in the contemporary era. Indian naval modernization is an important development in the IOR, driven by the geopolitical shift. Amidst China's increasing involvement in the Indian Ocean, India has heightened its attention to strengthening its naval capacities in the region. India's growing maritime influence raises concerns for Pakistan, a security-maximizing state that prioritizes its security amidst India's growing influence. India's advantageous geography and formidable naval strength allow it to dominate the region, significantly impacting relations with neighbouring states. This article explores the repercussions of Indian naval modernization on Pakistan, particularly in light of the establishment of the recent naval base in the Arabian Sea, the INS Jatayu. Furthermore, the analysis will extend to include the implications for Pakistan, examining the changing Indo-Maldives relations alongside the commissioning of the naval base.

Keywords: *Indian Ocean, India's Naval Modernization, Naval Base, Pakistan's Security Concerns, Indo-Maldives Relations*

Introduction

The ocean is the third largest body of water on the globe, exceeding the Southern and Arctic oceans, but smaller than the Atlantic and Pacific,[1] and covers approximately 70 per cent of the Earth's

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[1] "The World Factbook- Indian Ocean," *Central Intelligence Agency*, August 16, 2024, Indian Ocean - The World Factbook (cia.gov)

surface.[2] This ocean is inhabited by around 2.7 billion individuals. This region is filled with natural resources, featuring essential fish stocks, and hosts developing economies. The Indian Ocean provides 40 per cent of the world's offshore oil production and acts as a pathway for 80 per cent of global transportation. The Indian Ocean covers regions in the Middle East, Africa, East Asia, Europe, and the Americas.[3] Around 8 in 10 ships transit through the waters, connecting the IO to the outside environment.[4]

The total expanse of the Indian Ocean measures 70.56 million sq km, nearly seven times larger than the United States. It shares a coastline of 66, 526 km. It consists of the Arabian Sea, the Bay of Bengal, the Andaman Sea, the Gulf of Oman, the Persian Gulf, the Gulf of Aden, the Timor Sea, the Savu Sea, the Red Sea, the Mozambique Channel, the Great Australian Bight, and other associated waterways. The four critical waterways of the IO are the Suez Canal, the Bab-el-Mandeb between Djibouti and Yemen, and the Strait of Malacca between Indonesia and Malaysia, Strait of Hormuz between Iran and Oman.[5] They are of utmost economic importance. The crucial routes in the Indian Ocean play a vital role in its evolving strategic landscape, as their obstruction could disrupt the global economy. Hosting some of the rapidly developing economies, the Indian Ocean region gains importance.[6]

Historically, the IO has been navigated by ancient civilizations such as China, India, the Middle East, and European powers. In the past, the ocean has been a conduit for trade and cultural exchanges.[7] This is the sole ocean that derives its name from a country.[8] This region also faces security threats like piracy, terrorism, and illegal fishing.[9] This maritime area is

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2 "All About the Ocean," *National Geographic*, All About the Ocean (nationalgeographic.org)

3 Alexander E. Davis and Jonathan N Balls, "The Indian Ocean Region in the 21st Century: Geopolitical, Economic, and Environmental Ties," *Australia India Institute*, indian-ocean-report.pdf

4 Nilanthi Samaranayake, "Why the US Wants to Step UP Engagement in the Indian Ocean," *USIP*, May 24, 2023, Why the U.S. Wants to Step Up Engagement in the Indian Ocean | United States Institute of Peace (usip.org)

5 "The World Fact Book."

6 Ulrich Jochheim and Rita Barbosa Lobo "Geopolitics in the Indo-Pacific: Major Players' Strategic Perspectives," *European Parliamentary Research Service*, July 2023, Geopolitics in the Indo-Pacific: Major players' strategic perspectives (europa.eu)

7 Shubham Yadav, "Geopolitics of the Indian Ocean," Geographic Book, Last modified May 19, 2024, Geopolitics of the Indian Ocean - Geographic Book

8 "The World Fact Book – Indian Ocean," CIA, Last modified December 14, 2021, Indian Ocean - 2021 World Factbook Archive (cia.gov).

9 Yadav, "Geopolitics of the Indian Ocean."

prone to piracy threats and seems to remain the same with the largest security challenges.[10]

The region is experiencing geopolitical transformations in the twenty-first century and has become the hub of geopolitical maneuvers by regional and external powers. Today, the IOR has the potential to decide the future of certain powers, particularly China, India, and the US. Realizing this fact, it has been under consideration of each major power. Few other countries also sought to dominate these waters.[11]

India, as one of the key players, aims to enhance its influence in the Indian Ocean area. The changing security dynamics in the region due to China's ascent have prompted India to upgrade its naval capabilities in the IOR. Given China's progress in the area and the initiation of the BRI project, India found itself compelled to review its maritime strategies in the IOR. New Delhi also expressed its concern about China's debt-trap diplomacy and its bolstered relations with Pakistan.[12]

China's abrupt rise in the Indian Ocean waters prompted both Indian and U.S. policymakers to respond actively, and they started directing their focus to the IOR. The two geopolitical players realized that allowing China's naval expansion to go unchallenged in the region would negatively impact U.S. and Indian interests. New Delhi adopted various measures to deal with its increased regional influence. For instance, it joined the US-led Quadrilateral Security Dialogue (QUAD) and increased its participation in the Indian Ocean Rim Association (IORA). QUAD is not a formal alliance; it is more like a loose grouping involving four countries: India, Japan, Australia, and the US. With China's growing influence, the group has strengthened its economic and security connections.[13]

Major powers have certain stakes in the region, where each actor vies for control. However, to date, the US possesses more power than the rest of the countries. The US, already enjoying predominance in the region, fears its hegemony might be replaced by China. In the same way, perceiving a threat from China's increasing engagements, India aspires to become the regional hegemon.

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10 Rulah Odeh Alsawalqa and Denis Venter, "Piracy and Maritime Security in the North-Western Indian Ocean: From the Gulf of Oman to the Waters off the Somali Coast," *SAGE* 14, no. 1 (2021). Piracy and Maritime Security in the North-Western Indian Ocean: From the Gulf of Oman to the Waters off the Somali Coast - Rulah Odeh Alsawalqa, Denis Venter, 2022 (sagepub.com).

11 Yadav, "Geopolitics of the Indian Ocean."

12 Jochheim and Lobo, "Major Players' Strategic Perspectives." 6.

13 Sheila A. Smith, "The QUAD in the Indo-Pacific: What to Know," *CFR*, May 27, 2021, The Quad in the Indo-Pacific: What to Know | Council on Foreign Relations.

India and the US share common interests, including addressing China's increasing presence in the region. They are observing China's military expansion in the area and are working together to address this challenge. India views the Indian Ocean as its strategic domain, believing it has the right to exert influence in this region, and perceives China's progress as a threat to its interests. China, a country that previously had outdated naval capabilities, has now emerged as one of the most formidable naval forces in the present day. Addressing the concerns regarding China's rise, Beijing asserts that being the second largest economy in the world, it must prioritize economic growth. China aims to secure SLOCs and reduce reliance on the Strait of Malacca to support its economy. This drive has led to increased Chinese presence in the region.

China has been strategically building deep-sea ports in key littoral countries like Sri Lanka, Pakistan, and Myanmar, which China claims to be part of its policy initiatives to provide them with regional connectivity. However, the US and India perceive these actions as part of China's Debt-Trap diplomacy, fearing it will primarily benefit China and undermine their interests. According to India and the U.S., China's access to strategic ports in the region is intended to secure them as bases. Additionally, these two countries characterize China's economic activities in the region as a means of debt leverage. They also show concern that by establishing bases around India, China seeks to encircle New Delhi. Under the Belt and Road Initiative (BRI), China is developing the Gwadar Port, which is expected to bring significant advantages to China, enhancing its economic security and influence in the IOR. While on the other hand, it negatively impacts the US' and Indian interests.

Core Argument/Hypothesis

India's commissioning of a new naval base on Minicoy Island in the Indian Ocean Region, amidst strained relations with Maldives, is likely to impact Pakistan's strategic interests in the region, potentially exacerbating the security dilemma between India and Pakistan.

Literature Review

The Indian Ocean has emerged as a critical region in the twenty-first century, with various authors highlighting its strategic importance. Robert D. Kaplan aptly describes it as the "center stage of geopolitics" in the present century.[14] This characterization is shared by Gosh, who

[14] Kaplan, "Center Stage for the 21st Century Power Plays in the Indian Ocean," *Foreign Affairs*, March/April, 2019, https://www.foreignaffairs.com/articles/east-asia/2009-03-01/center-stage-21st-century.

emphasizes the region's role as a hub of competition among regional and extra-regional powers.[15] Cuiping Zhu further notes that the fate of stakeholders in the region is intricately linked to the competition among geopolitical players.[16] Harsh V. Pant also underscores the Indian Ocean's significance as a hub of global power rivalry.[17] The region's importance extends beyond geopolitics, as it is also a critical hub for global trade. The Indian Ocean is home to vital Sea Lines of Communication (SLOCs), essential for international trade. Priyanjoli Gosh describes it as the "world's busiest trade route."[18] Kaplan similarly emphasizes the region's role as a hub for global trade.[19] Davis and Balls, and Jochheim and Lobo shed light on the importance of the Indian Ocean, referring to this region as the center of the fastest growing economies. KM Pannikar emphasizes the Indian Ocean's vital importance for India, describing it as a "vital sea."[20]

The literature on Indian naval modernization presents two distinct perspectives. On one hand, some experts argue that India's naval modernization is driven by the need to secure its trade interests and protect its SLOCs. On the other hand, others contend that the expansion of China's naval capabilities is the primary driver behind New Delhi's naval build-up. Some analysts argue that this naval expansion is a defensive response to China's growing naval presence in the region. However, others contend that India's naval posture has shifted from defensive to offensive in response to China's rise.

Several scholars highlight the significance of the Indian Ocean as a contested region where India's and China's interests collide. As Smith notes, China's rapid expansion in the Indian Ocean has prompted India and the US to strengthen their economic and security ties, particularly among

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15 Priyanjoli Ghosh, "India's Indian Ocean Region Strategy," *Journal of Indo-Pacific Affairs* 3, no. 3 (Fall 2020): 146.

16 Cuiping Zhu, *India's Ocean: Can China and India Coexist?* (Singapore: Springer, 2017).

17 Harsh V Pant, "India in the Indian Ocean: Growing Mismatch Between Ambitions and Capabilities," *Pacific Affairs* 82, no. 2 (Summer 2009): 279, https://www.jstor.org/stable/25608866.

18 Gosh, "India's Indian Ocean Region Strategy."

19 Robert D. Kaplan, *Monsoon*: *The Indian Ocean and the Future of American Power* (New York: Random House, 2010), 6-7.

20 Vice Admiral MP Muralidharan, "Revival of Maritime Outlook in Modern India: The Role of KM Pannikar, IDR, July 9, 2021, https://indiandefencereview.com/revival-of-maritime-outlook-in-modern-india-the-role-of-km-panikkar/#google_vignette.

Quad member nations.[21] Similarly, Vaughn suggests that the rivalry between India and China in the Indian Ocean is a pressing concern, and the rise of China has led to increased competition in the region, with the US and India seeking to counterbalance China's growing influence.[22] This rivalry is driven by India's perception of China as a threat to its security, as argued by Kaplan. In response, India has increased its military presence in the Andaman and Nicobar Islands to counter China's growing influence.[23] Donald L. Berlin observes that India considers the Indian Ocean its "backyard" and aspires to become the regional hegemon.[24] Pant further emphasizes that China's rising power is driving India's naval posture, with New Delhi exercising caution in response to Beijing's initiatives to secure its interests.[25]

While the existing literature on Indian naval modernization extensively explores India's naval upgrades and their implications for Pakistan, it primarily focuses on the motivations behind this modernization, which are largely attributed to China's growing influence. However, a significant gap exists in the current research, as few studies examine the implications of India's recent naval expansions, particularly the commissioning of the INS Jatayu naval base in the Arabian Sea, on Pakistan's security dynamics.

Launching the naval base INS Jatayu is a significant development in this context. It reflects India's efforts to strengthen its naval capabilities and maximize its power in the Indian Ocean. However, this move also has the potential to exacerbate the security dilemma between India and China, highlighting the need for careful management of their rivalry in the region.

Research Methodology

This research employs descriptive and predictive research approaches. Following the qualitative research method, data has been

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21 Sheila A. Smith, "The QUAD in the Indo-Pacific: What to Know," *CFR*, May 27, 2021, The Quad in the Indo-Pacific: What to Know | Council on Foreign Relations.

22 Bruce Vaughn, "China-India Great Power Competition in the Indian Ocean Region: Issues for Congress," *Congressional Research Service*, April 20, 2018.

23 Robert D. Kaplan, *The Revenge of Geography* (New York: Random House, 2012).

24 Donald L Berlin, "India in the Indian Ocean," *Naval War College Review* 59, no.2 (Spring 2006).

25 Pant, "Sino-Indian Maritime Ambitions Collide in the Indian Ocean," *Journal of Asian Security and International Affairs* 1, no. 2 (August 2014): 187-202, https://www.jstor.org/stable/48601777.

collected through secondary sources for this research to examine the different aspects of the study.

This study faces limitations in terms of access to official Indian documents and archives. Most of the literature examined presents a biased view. Some support India, saying that it is a defensive move in response to China's increased power in the IOR. On the other hand, India has expansionist designs and wants to fulfill its objective. So, a balanced opinion is missing.

Theoretical Framework

Indian naval modernization in the IOR can be viewed through the lens of Offensive realism. Despite possessing a strong naval posture, which is sufficient to guarantee its security, India continues to pursue naval modernization efforts. This ongoing endeavor suggests that India exhibits offensive behavior, characteristic of a power maximizer. According to John Mearsheimer's theory of Offensive Realism, States are power maximizers. For instance, states are not satisfied with the amount of power they have, and their appetite for power is never fulfilled, therefore, they try to attain maximum power, which is beyond any limit. Moreover, the unlimited pursuit of power is not driven by the need for power in human nature. Rather, the power struggle is due to the anarchic structure of the international system.[26] India's recent initiative of commissioning of naval base, INS Jatayu on the Minicoy Island, exemplifies this offensive realist mindset.

India's naval modernization, particularly the establishment of the INS Jatayu base in the Arabian Sea, creates a security dilemma for Pakistan. According to Robert Jervis, a proponent of Defensive Realism, a security dilemma arises when an increase in one state's security inadvertently leads to a decrease in the security of another state. In this context, India's naval expansion and base establishment may heighten Pakistan's sense of insecurity, potentially triggering an arms race or escalating tensions between the two nations.[27]

Importance of the Indian Ocean

The Indian Ocean region is of great importance both politically and economically. Economically, the ocean is rich in resources and global trade

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26 "Political Realism in International Relations," Stanford Encyclopedia of Philosophy, October 9, 2023, 151, https://plato.stanford.edu/entries/realism-intl-relations/#KennWaltInteSyst.

27 Charles L. Glaser, "The Security Dilemma Revisited," *World Politics* 50, no.1 (October 1997): pp. 171-174, https://www.jstor.org/stable/25054031.

and commerce. Politically, it serves as a critical area for major powers owing to its geographical location and the presence of crucial SLOCs. Many experts and scholars emphasize the pivotal role of this region. Robert Kaplan notably considers the Indian Ocean to be the focal point of geopolitics in the present day, highlighting its influence on global power dynamics and strategic interests.

Importance of the Indian Ocean for the US

The Indian Ocean Region holds immense significance for the US. It is worth mentioning that this region served as a medium for the US to launch attacks/ military intervention, i.e. in Kuwait, Somalia, and Iraq. Moreover, the United States remained the dominant player in the region since the end of the Cold War, and today, China emerged as a competitor for the US. The US aims to safeguard SLOCs for energy imports and protect trade routes from interference from external powers by maintaining a robust naval presence in the IO. The US has strengthened its position in the IOR by establishing military bases in locations like Diego Garcia and the Persian Gulf. Its strong naval presence not only ensures the protection of American interests and crucial trade routes but also enables greater control.[28]

Importance of the Indian Ocean for India

India shares its borders with eight countries. The Indian Ocean is located to the south of New Delhi. On its southwest, the Arabian Sea is located and on its southwest, the Bay of Bengal is situated.[29] It is blessed with a strategic geographical location and enjoys a home-field advantage. Due to its advantageous geographical location, India has more chances of progress in the maritime realm. It shares a coastline of around 7500 km along the IO.[30] Most of India's trade, including around 80 percent of its crude oil and 95 percent of its total trade (by volume) is conducted through sea routes.[31] This reliance on maritime trade exposes India to various geopolitical challenges.[32]

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28 Khalid Manzoor Butt and Sadaf Jan Siddiqui, "Growing Chinese Presence in the Indian Ocean: Prospects and Challenges," *ISSI*, August 2021, 77, 5_SS_Khalid_Manzoor_Butt_and_Sadaf_Jan_Siddiqui_No-2_2021.pdf.pdf (issi.org.pk).

29 Jochheim and Lobo, "Major Players' Strategic Perspectives," 6.

30 Harshita Kanodia, "India's Sagar Policy in the Indian Ocean Region," *Diplomatist*, December 25, 2020, India's SAGAR Policy in the Indian Ocean Region – Diplomatist.

31 Suyesha Dutta, Suvolaxmi Dutta Choudhury, "Balancing Tides : India's Competition with China for Dominance of the Indian Ocean Region," *Asia*

India's Shifting Naval Strategy in the Indian Ocean

India has vested interests in the IOR, evident through its naval presence. In the past, New Delhi remained inactive in the maritime realm for a prolonged period. However, in recent years, it has adopted a pragmatic approach towards the geopolitical realities. In 2007, it released a strategy titled "Freedom to Use the Seas: India's Maritime Military Strategy."[33] Afterward, in 2015, it released a maritime strategy, "Ensuring Secure Seas: Indian Maritime Security Strategy."[34] These strategies underscore India's transition towards securing maritime concerns. The rise of China prompted India to reassess its maritime policies and redefine its strategic priorities due to the region's crucial role as a gateway to the world.[35]

India's Transition to Naval Modernization

After gaining independence, New Delhi pursued a non-aligned policy, staying neutral during the Cold War. The main threats faced by India were from China and Pakistan, both being land-based, which led to a limited focus on naval capabilities development, and New Delhi also remained focused on land-oriented policies.[36] India, along with most countries in the Indian subcontinent, initially focused on land-based forces and did not prioritize modernizing their navy. Maritime warfare was not seen as a significant threat; the primary concern was land warfare. The significance of maritime warfare became evident during the British rule over the IO.[37]

India's Strategic Naval Presence in the Indian Ocean Region

India holds a dominant position in the IO. Thus, the increase in power of any country in the area is perceived as a threat and illegitimate

Pacific Foundation of Canada, April 24, 2024, India's Competition with China for Dominance of the Indian Ocean (asiapacific.ca).

32 Jochheim and Lobo, "Major Players' Strategic Perspectives," 6.

33 Darshana M. Baruah, "India's Evolving Maritime Strategy," *The Diplomat*, December 3, 2015, India's Evolving Maritime Strategy – The Diplomat.

34 Kanodia, "India's Sagar Policy in the Indian Ocean Region."

35 Dhruva Jaishankar, "Indian Ocean Region: A Pivot for India's Growth," *Brookings*, September 12, 2016, Indian Ocean: Key to India's Economic Growth (brookings.edu).

36 Ibid.

37 Anirban Sen, "India's Role in the Indian Ocean Region and its Links to the Indo-Pacific," *Jadavpur Journal of International Relations* 27, no.1, https://doi.org/10.1177/09735984231164457.

encroachment by New Delhi. Consequently, any rise of another country in this region is viewed as a threat and an unauthorized intrusion. Some strategic experts refer to this as India's 'Monroe Doctrine.'[38] To protect international shipping routes from potential threats, the Indian Navy has significantly increased its presence in the Gulf of Aden and the Western Arabian Sea. With a fleet of twelve warships, two advanced ships are strategically positioned in the Gulf of Aden, with the remaining ten strategically stationed across the Northern and Western Arabian Seas.[39] As per a Press release, the Indian Navy is actively overseeing the maritime security situation in the North/Central Arabian Sea and the Gulf of Aden. The Indian naval vessels and aircraft are continuously on the mission to enhance surveillance and conduct maritime security operations.[40]

India's Maritime Infrastructure Development Initiatives

India also adopted various initiatives to strengthen its strong foothold in the region. For instance, the SAGARMALA project aimed at port development, which would not only facilitate the strengthening India's economy but also enhance its power.[41] Another development on behalf of India is the progress of Chahbahar Port, which aims to provide passage to Central Asian states and Afghanistan. The development of this port is a threat to Pakistan as it would minimize its dependence on Pakistan. It is in response to the establishment of Gwadar Port by China in Pakistan. The proximity of Gwadar Port to Chahbahar Port, just 72 kilometers away, has significant implications for India's geopolitical and economic interests in the region.[42]

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38 Alik Naha, "Geostrategic Significance of the Bay of Bengal in India's Maritime Security Discourse," June 2022, *Journal of Territorial and Maritime Studies* 9, no. 2, (2022): 50, (PDF) Geostrategic Significance of the Bay of Bengal in India's Maritime Security Discourse (researchgate.net).

39 Khyati Singh and Gaurav Sen, "India's Anti-Piracy Missions were Years in the Making," *The Diplomat*, February 29, 2024, India's Anti-Piracy Missions Were Years in the Making – The Diplomat.

40 "Indian Navy Enhances Surveillances in North / Central Arabian Sea and Gulf of Aden," Ministry of Defense, last modified December 31, 2023, Press Release: Press Information Bureau.

41 "Sagar Mala New Dimensions in Coastal Economy" Ministry of Information and Broadcasting Government of India, https://shipmin.gov.in/sites/default/files/sagarmala-eng.pdf.

42 "India Inks 10-year Deal to Operate Iran's Chahbahar Port," *Reuters*, May 13, 2024, India inks 10-year deal to operate Iran's Chabahar port | Reuters.

Indian Naval Modernization

As discussed earlier, India began upgrading its navy over a decade ago. This involved investing billions in advanced military technology, making India the fourth-largest military power with a substantial defense budget. The defense budget for 2023-2024 has notably increased, especially the naval defense budget,[43] which saw a significant 45 per cent rise in 2022 alone.[44] According to SIPRI, New Delhi ranked third in military spending in 2022. This boost aims to improve maritime assets and capabilities, aligning with India's goal of enhancing military strength.[45] The former naval Chief stressed the need for India to modernize its navy swiftly to match China's higher naval spending, considering China's much larger GDP compared to India's defense budget.[46]

As part of naval modernization endeavors, India is actively strengthening its diplomatic role. By engaging in various platforms, India is securing a stronger position in the region. For instance, India is a key member of the Quadrilateral Security Dialogue, Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA), and Colombo Security Conclave.[47] Additionally, through joint exercises, India strengthens ties with neighboring littoral countries, advancing regional cooperation and solidarity. With a robust presence in the IOR, India is evolving into a key security provider, collaborating with its Quad partners and maritime allies.[48] India's strong military presence and capabilities in the region grant it a significant advantage and influence over neighboring countries.[49]

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43 "Defence Budget 2024 Comparison: How India's Defence Allocation for Armed Forces Stack up Against China and Pakistan," *Economic Times*, Defence Budget 2024 Comparison: How India's defence allocation for armed forces stack up against China and Pakistan (indiatimes.com).

44 "India's Efforts to Strengthen Indian Ocean Security," *CFR*, India's Efforts to Strengthen Indian Ocean Security | Council on Foreign Relations (cfr.org).

45 Malik Qasim Mustafa, "Indian Defense Budget 2023-2024: An Assessment, *ISSI*, IB_Qasim_Feb_23_2023.pdf .

46 Harsh V Pant, *The Rise of the Indian Navy Internal Vulnerabilities, External Challenges* (London: Routledge, 2016), The Rise of the Indian Navy: Harsh V. Pant - Book2look.

47 Manjari Chatterjee Miller and Clare Harris, "India's Efforts to Strengthen Indian Ocean Security," *CFR*, July 18, 2023, India's Efforts to Strengthen Indian Ocean Security | Council on Foreign Relations.

48 Samir Bhattacharya, "India is Embracing a Net Security Provider Role in the Indian Ocean Region," *The Diplomat*, March 8, 2024, India Is Embracing a 'Net Security Provider' Role in the Indian Ocean Region – The Diplomat.

49 Issac B. Kardon, "Geostrategic Competition for Military Basing in the Indian Ocean," *Brookings*, February 2023, Geostrategic competition for military basing in the Indian Ocean region.

Further, India focused on the transition from "Look East" to "Act Policy." Modi's visit to coastal states signifies the promotion of increased cooperation and economic activity.[50]

India's strategic military footprint in the region is further reinforced by the tri-service theatre command headquartered in Port Blair, Andaman, and Nicobar Islands. India's nearness to the Malacca Straits enables it to keep an eye on China's activities in the ocean and to safeguard its security interests in Southeast Asia.[51] To bolster its maritime security and counterbalance Chinese influence, India has created the Information Fusion Center (IFC) which centralizes information from coastal radar stations across the Indian Ocean.

Indian Navy in the Indian Ocean

The Indian Navy actively patrols in the Indian Ocean to deal with piracy threats and safeguard its SLOCs. In recent years, the Indian navy has undergone modernization efforts, reflecting the policymakers' and naval strategists' commitment to upgrading its capabilities. India aspires to establish itself as a world-class blue water navy, leveraging its strategic geographical position to counter naval threats, particularly from China, and to increase its presence in the IOR. Notably, Pannikar stressed India's dominance in the Indian Ocean a long time ago, as according to him, the future of India will be decided on the sea. Similarly, Keshav Vaidya, another Indian naval thinker advocated for India to extend its naval control beyond its coasts to distant waters.[52] Moreover, the Indian political leaders have continuously encouraged the importance of readiness to confront the two-front conflict with China and Pakistan.[53]

India's Naval Advancements

India has made notable strides in the IOR. New Delhi marked a milestone with the launch of its first indigenous submarine, INS Arihant, in 2009. Subsequently, in 2016, the country unveiled its second indigenous submarine, the Arighaat. In 2021, the third nuclear submarine was launched. Recently, on October 16, 2024, India launched its fourth submarine, which is considered the most powerful nuclear ballistic missile

50 Ibid, 12.
51 Ibid, 6-7.
52 Pant, *The Rise of the Indian Navy: Internal Vulnerabilities, External Challenges*
53 Mustafa, "Indian Defense Budget 2023-2024: An Assessment," 4.

submarine. The unveiling of this new submarine added further deterrence and enhanced India's naval ability.[54]

India's naval presence has expanded with the establishment of a base in the Agalega islands, located in Mauritius. This base would increase India's potential by strengthening its position in the Southwestern region of the Indian Ocean.[55] This will optimize the operational capabilities of the P-81 maritime surveillance fleet, enabling it to undertake a range of tasks, including anti-sub, marine, and anti-surface warfare, and ISR operations.[56]

The Indian defence budget and its trends reflect that India is pursuing a constant drive to expand its military machine. India's offensive military posture and its increase in the defence budget, particularly the budget allocated for the navy, have implications for Pakistan.

Critics' Response to Indian Naval Modernization

India's naval expansion has drawn significant attention, with critics expressing concerns. New Delhi asserts that its growing naval engagements are spearheading an initiative to bolster Indian naval capabilities, securing its security and economic interest, for instance, to counter the threat posed by Houthi rebels and Somalian Sea pirates, and to ensure the smooth flow of trade, as 95 percent of its trade passes through the IO.[57]

India's New Naval Base and its Connections to Maldives Tensions

As part of its comprehensive naval modernization strategy, India has successfully established a new naval base in the Lakshadweep Islands. In the wake of recent tensions between India and the Maldives, the

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54 MI News Network, "India Launches its Most Powerful Nuclear Ballistic Missile Submarine," *Marine Insight*, October 23, 2024, India Launches Its Most Powerful Nuclear Ballistic Missile Submarine.

55 "Indian Navy's Offshore Patrol Vessel, INS Sharda, Reinforces Maritime Cooperation with Mauritius," Force, September 19, 2023, Indian Navy's Offshore Patrol Vessel, Ins Sharda, Reinforces Maritime Cooperation With Mauritius.

56 Sudha Ramachandran, "India's Maritime Power Projection in the Southwest Indian Ocean Gets a Boost," *The Diplomat*, March 8, 2024, India's Maritime Power Projection in the Southwest Indian Ocean Gets a Boost – The Diplomat/ "India Expands its Naval Presence with Planned Base,"

57 Andrew Orchard, "What Does China Think About India's Increased Anti-Piracy Patrols Amid the Red Sea Crisis," *The Diplomat*, February 10, 2024, What Does China Think About India's Increased Anti-Piracy Patrols Amid the Red Sea Crisis? – The Diplomat.

presence of this base in the Arabian Sea poses certain challenges to Pakistan.

Previous governments had better relations with the Maldives. The former President Ibrhim Solih's policy was focused towards India; after assuming power, he paid his visit to India.[58] Before that, under former President Yameen's government, the tilt had been towards China. Since 2009, Chinese influence began to grow in the Maldives, with significant investments in infrastructural projects and financial aid. Before China's investments, India made major investments, making it the leading developmental partner. India established institutions in the Maldives like Indira Gandhi Memorial Hospital, Indira Gandhi Friendship Faculty of Hospitality and Tourism Studies, and Faculty of Engineering Technology. In 2014, India was among the first responders to the acute water shortage crisis.[59]

In 1982, Indo-Maldives relations experienced an episode of tense relations, when then President Gayoom's brother Adbullah Hameed declared Minicoy Island part of Maldives. However, the former President assured India that he does not support his brother's claims, clarifying that Maldives had no political claims on the island, linking it to cultural and historical connections.[60]

The Maldives' proximity to India's West Coast its location near the important maritime corridors in the Indian Ocean, and its potential to host another country's navy, contribute to its strategic importance for India. It is situated at a distance of 70 nautical miles from Minicoy and 300 nautical miles from India's West Coast.

India and Maldives had been enjoying good relations before the recent elections. In 2021, India became Maldives' third largest trading partner. Moreover, Maldives has been a major tourist destination for Indians. Both countries have collaborated in different sectors, mainly, in defence and security. Reports indicate that New Delhi offers training opportunities to the Maldivian National Defence Force, fulfilling the requirement of around 70 percent of their defence training needs. However, the close relations between India and Maldives took a turn with the onset of heated arguments between ministers from both sides.[61] Tensions escalated after the change in leadership in Maldives with the

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58 E. Dilipraj and Cyriac S. Pampackal, "India-Maldives Relations: Revival of a Historic Partnership," *Center for Air Power Studies*, January 14, 2019, 2, Issue Brief AUGUST 2018 (capsindia.org).

59 Ibid, 2-3.

60 Ibid, 2.

61 ClearIAS Team, "India-Maldives Relations," Modified on January 2024, India-Maldives Relations – ClearIAS.

arrival of the new President, Mohamed Muizzu. The new president came into power with the slogan "India Out," the country's growing alignment towards China post-election has strained relations. The shift was triggered by derogatory remarks exchanged between the ministers of both sides, which led to the political level. In response, India boycotted the tourism to the Maldives. Muizzu also commanded India to replace military personnel with civilian technical staff.[62]

Construction of New Naval Base Close to Maldives

In a strategic move amidst tensions with the Maldives, India built a naval base on Minicoy Island, the INS Jatayu on the Lakshadweep archipelago, enhancing its maritime surveillance and security capabilities. It must be noted that it already operates a strategic naval base in this archipelago titled INS Dweeprakshak on Kavaratti Island.[63] India commissioned its first base in the archipelago in 2012, enabling it to monitor the activities of Pakistan, China, and Maldives effectively.[64]

The INS Jatayu holds great significance as it represents an upgraded base. It is an important milestone to enhance its capability and augment its foothold in the region.[65] This development would not only strengthen the already existing military resources in the Lakshadweep archipelago but[66] also elevate India's power in the Western Arabian Sea.[67] Additionally, through this initiative, India seeks to solidify its position as a net security provider in the Arabian Sea, further strengthening its position.[68]

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62 Bidishah Saha, "Why is India Building a Naval Base in the Lakshadweep," *India Today*, March 5, 2024, Explainer: Why is India building a naval base in the Lakshadweep? - India Today.

63 "India to Build a New Naval Base Close to Maldives Amid Tensions over China Ties," *The Indian Express*, India to build new naval base close to Maldives amid tensions over China ties | India News - The Indian Express.

64 "Why INS Jatayu, India's New Naval Base in Lakshadweep Matters," *The Indian Express*, Why INS Jatayu, India's new naval base in Lakshadweep, matters | Explained News - The Indian Express.

65 "INS Jatayu Lakshadweep gets its Second Strategic Naval Base in Minicoy," ANI News, You Tube, April, Bing Videos.

66 Michael Kugelman, "India Expands its Naval Presence with Planned Base," *Foreign Policy*, March 6, 2024, India Expands Its Naval Presence With Planned Base – Foreign Policy.

67 "India to Build a New Naval Base Close to Maldives."

68 Kugelman, "India Expands its Naval Presence with Planned Base," *Foreign Policy*, March 6, 2024.

Strategic Location of Minicoy Island

Minicoy Island occupies a strategic vantage point, lying at the southern tip of Lakshadweep,[69] and India's Southwestern coast and at a distance of 80 miles from Maldives.[70]

Implications for Pakistan

The establishment of the naval base, the INS Jatayu in the Lakshadweep archipelago has certain implications for Pakistan. For instance, this move would strengthen India's foothold in the IOR, empowering New Delhi and eventually posing a threat to Pakistan's interests.

Importance of Indian Ocean for Pakistan

Pakistan lies to the north of the Indian Ocean. Pakistan's coastline along the Indian Ocean borders the Arabian Sea. The Indian Ocean holds immense importance for Pakistan as 95% of its trade flows through the Karachi Port and Qasim Port, both located in the Indian Ocean Region.[71] Pakistan shares a coastline of around 990km long.[72] The country heavily relies on maritime trade for both imports and exports. Pakistan's geographical proximity to the Strait of Hormuz enhances the strategic value of ports like Gwadar, allowing efficient trade with neighboring countries and regions.[73]

Security Dilemma Triggered by Establishment of INS Jatayu

The changing strategic dynamics of the IOR have certain implications for Pakistan, particularly the Indian naval modernization. Pakistan, being a security-maximizing state, faces security threats from India's naval advancements. As provided by Robert Jervis, the power dynamics between the two countries are inversely related, meaning one country's gain is the other's loss. Pakistan faces a Security Dilemma due to

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69 "INS Jatayu Lakshadweep gets its Second Strategic Naval Base in Minicoy."

70 Kugelman, "India Expands its Naval Presence with Planned Base."

71 Abdul Sattar Rahuja, "Maritime Economy of Pakistan," *Pakistan Today*, March 26, 2020,

72 Mahvash Haider Ali and Ruxshin Cyrus Dinshaw, *A Handbook on Pakistan's Coastal and Marine Resources* (Pakistan: Daccan Printers, 2016), 7

73 Syed Kamran Hamid Hashmi, Babar Bilal Haider and Iram Zahid, "Major Power Interests in IOR and Implications for the Region, *Paradigm Shift*, April 6, 2024, Major Powers' Interests in IOR And Implications For the Region - Paradigm Shift

India's naval upgradation, intensified by the commissioning of a new naval base in the Arabian Sea. Empowering India has created an insecure clout for Pakistan.[74]India already has a geographical edge over Pakistan, as due to its advantageous geographical location, India can establish bases and bolster its influence in the region compared to Pakistan.

Following the principles of Defensive Realism, which provides that states are security-maximizing entities given the anarchic state of the international system, the establishment of a naval base on the Minicoy Island triggers security concerns for Pakistan. To augment regional defense, Pakistan must prioritize maximizing its security by reevaluating its approach towards the IOR. In response to the perceived threat, Pakistan may need to reassess its strategic positioning and consider diplomatic measures to maintain regional stability amidst India's developments in the IOR.

The UN proclaimed the Indian Ocean Region as a Zone of Peace in 1971, faces the risk of transformation into a zone of conflict given the geopolitical competition and the recent Indian developments. The INS Jatayu is commissioned on the largest island of Lakshadweep, the Minicoy. India's strategic plans include the establishment of a jetty, a new airstrip, and some other military ventures to ensure the base's smooth functioning. Major trade from the Persian Gulf and Suez Canal to East Asia and Southeast Asia passes along the Channels between Maldives and Minicoy Island. With the new base, India aims to strengthen its control over the region, extending up to the Bab-el-Mandeb Strait and the Cape of Good Hope. Additionally, the Arabian Sea offers access to the Strait of Hormuz along these channels. The Security Dilemma may drive towards arms proliferation and encourage more increased cooperation between Pakistan and China. [75]

Considering the strategic location of INS Jatayu, it has the potential to strengthen India's ties with African nations, thereby, enhancing regional stability and potentially increasing Pakistan's insecurity. However, given the strained relations of Maldives with India, and Maldives' tilt towards China, it could indirectly benefit Pakistan. While India's advancements in the IOR pose certain challenges to Pakistan, they also offer opportunities. For instance, these developments could deepen the collaboration between Pakistan and China, as previously mentioned. Furthermore, there might be a way to improve relations with Maldives, a crucial actor in the Indian Ocean's geopolitical landscape due to its strategic positioning.

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74 Kugelman, "India Expands its Naval Presence with Planned Base."

75 Mukesh Kumar, "Lakshadweep and Agalega: Implications of India's Dominance," *South Asian Voices*, April 15, 2024,

Conclusion

The Indian Ocean Region assumes paramount importance in the twenty-first century, driven by its unique strategic placement. Today, it has become a focal point for many nation-states, particularly major powers, who view their prospects as tied to their influence in this area. All the major stakeholders are in a state of constant competition to have greater influence in the region. In particular, India is increasing its naval power to enhance its dominance. Realizing the Indian Ocean's pivotal role in contemporary geopolitics, New Delhi is pursuing naval modernization vigorously. A primary driver of India's naval modernization is the escalation of Chinese maritime activity in the region. Perceiving a threat from China's rise in naval capabilities, India is adopting certain strategies to augment its naval strength.

India's expanding naval power, coupled with its proximity to Pakistan, raises significant security concerns for Pakistan. India operates several naval bases across the Indian Ocean, including the recently inaugurated facility on Minicoy Island in the Lakshadweep archipelago. The commissioning of another naval base, INS Jatayu, in the Arabian Sea, following a bit strained relations with Maldives following the arrival of the new President in Maldives, further enhances India's maritime capabilities and exacerbates Pakistan's security fears.

In this context, Pakistan, as a security-maximizing state, must prioritize strengthening its position in the region. While challenges abound, this situation also presents opportunities for Pakistan. Improved relations with Maldives could emerge, especially as Pakistan and China collaborate in the Indian Ocean, particularly with the new pro-China government in Maldives.

ASSESSING FORCE COMPARISON AND TECHNOLOGICAL LIMITATIONS OF RUSSIAN MILITARY IN RUSSIA-UKRAINE WAR

Ahmad Ibrahim[*] and Dr. Sehrish Qayyum[**]

Abstract

Russia's multi-front invasion of Ukraine failed to achieve a quick and decisive victory. With its numerical and technological advantage, Russian armed forces were in an advantageous position against the Ukrainian counterparts. However, the high death toll and heavy equipment losses uncovered the technological deficiencies of Russian military forces. The article briefed the initial phase of the Russia-Ukraine war and how the territorial gains and losses occurred until April 2023. The article also discusses the technological limitations of Russian forces through the lens of Revolution in Military Affairs. A comparative evaluation of Russian and Ukrainian pre-war strength, as well as their combat losses, has also been provided. Analysis of Russian military limitations in the initial phase of the war is important as the majority of contemporary military forces still employ traditional military hardware and strategies. In sum, this study highlights the pivotal role of technology in warfare, offering insights for military strategists and the research community.

***Keywords**: Russia, Ukraine, Technological Limitations, Military Hardware, Modern Technology, Revolution in Military Affairs*

Introduction

Historically, Russia and Ukraine have shared deep cultural and political ties, with Ukraine being part of the former Soviet Union until its dissolution in 1991. From the Russian point of view, the Soviet disintegration discarded the primary rationale for sustaining NATO's existence.[1] However, NATO undertook rapid eastward expansion –

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a move always perceived by Moscow as a major national security challenge.[2] From the Kremlin's perspective, the EU-ward tilt of Ukraine represents a broader and long-term strategy by Western powers to contain Russia and nullify its influence in Eastern Europe.

The annexation of Crimea by Russia in 2014, though initially justified by Moscow as a protective move to safeguard the ethnic Russian community, was primarily directed to secure key strategic interests including Russian dominance in the Black Sea and sustenance of strategic buffer against NATO's South-Eastern flank.[3] From a Western point of view, the Kremlin seeks to challenge the status quo by reestablishing Russian dominance in territories that were previously part of the Soviet Union.[4] This will eventually lead to the diminishing of the geopolitical order dominated by Western powers and the restoration of Russia's status as a global power.

In contrast, Russia feared that the integration of Ukraine into NATO will endanger its South-Western region and would significantly degrade its connectivity to the Black Sea and the Middle East.[5] To proactively nullify the newly emerging threat, Moscow utilized military prowess against Ukraine. But despite significant military superiority, Russian armed forces failed to perform as efficiently as was generally anticipated. Russia has attained territorial gains but has also suffered significant losses against Ukrainian forces.

Theoretical Framework

When a radical transformation in military technology causes a transition in character and dynamics of warfare, then it is termed The Revolution in Military Affairs (RMA).[6] It suggests that transformative

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1 Smith, John. "Patterns of Continuity in NATO's Long History," *International Politics* 56, no. 3 (2023): 570-73. https://doi.org/10.1057/s41311-022-00350-4.

2 Marten, Kimberly. "Reconsidering NATO Expansion: A Counterfactual Analysis of Russia and the West in the 1990s," *European Journal of International Security* 3, no. 2 (2018): 146-48. https://doi.org/10.1017/eis.2017.16.

3 DeBenedictis, Kent. "Russian 'Hybrid Warfare' and the Annexation of Crimea: The Modern Application of Soviet Political Warfare," *International Affairs* 99, no. 1 (January 2023): 397–98.

4 Feinstein, Scott G., and Ellen B. Pirro. "Testing the World Order: Strategic Realism in Russian Foreign Affairs," *International Politics* 58 (2021): 822-23.

5 Kushnir, Ostap. "Russian Geopolitical Advancements in the Black Sea Region: The Annexation of Crimea." *Polskie Studia Politologiczne* 56 (2017): 114-16.

6 MacGregor Knox and Williamson Murray, *The Dynamics of Military Revolution 1300- 2050* (Cambridge University Press; First Edition, 2001): 1-14.

advancements in military technology, when effectively integrated with doctrinal and organizational reforms, can provide decisive advantage in warfare. RMA-driven military forces focus on network-centric warfare (NCW), real-time intelligence, precision-strike capabilities, electronic warfare (EW), and cyber operations to ensure battlefield dominance.[7] It can be argued that key technologies, as highlighted by RMA postulations, are essential in winning modern era warfare.

Before the conflict, Russia had earned the reputation of being a formidable military power – second only to the United States in terms of combat capability. However, when viewed through the lens of RMA, the initial phase of the Russia-Ukraine war exposed major vulnerabilities in Russian military capabilities. It can be hypothesized that the technological limitations of military equipment employed by Russian armed forces significantly contributed to the degrading efficiency of Russian hard power.

Lack of precision strike capability, inadequate anti-air defense potential, limited stock of stand-off munitions, and poor ISR capabilities prevented Russia from achieving air superiority. Similarly, rigid command & control (C&C) and lack of doctrinal flexibility degraded Russia's ability to adapt according to rapidly transforming battlefield conditions. Russia's electronic warfare and cyber operations also failed to disrupt Ukraine's battlefield networks. In addition, poor logistical support and outdated supply chain management also led to fuel shortages and ammunition depletion. In contrast, Ukraine leveraged Western ISR support, encrypted communications, and satellite networks to undertake well-informed and well-coordinated asymmetric counteroffensives against the Russian military. Combined, all these factors greatly undermined the momentum of the Russian offensive and the resulting war of attrition, therefore degrading the relevancy and achievement of Moscow's objectives.

Russia - Ukraine Force Comparison

After Russian President Vladimir Putin vowed to modernize Russian armed forces by spending 22 billion rubles by 2020, efforts were made to upgrade the older equipment to match modern standards.[8] Russia has been increasing its defense budget for three consecutive years. With a 2.9 percent increment, Russian defense expenditure reached $62.2 billion

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7 Nazirah, Ansori Zaini, and Buddy Suseto, "Implementation of Revolution in Military Affairs in the Russian and Ukrainian Wars," *Formosa Journal of Applied Sciences* Vol.3, No.112024: 4471-4475.

8 "Putin Vows to Continue Russian Military Modernization." *Radio Free Europe/Radio Liberty*, June 25, 2015. https://www.rferl.org/a/putin-vows-military-modernization/27093316.html.

in the year 2021.[9] Despite economic limitations and embargos of vital sub-systems from abroad, Russia completed the majority of projects. According to the SIRPI fact sheet 2022, with a 19 percent share in the global market, Russia was the second largest exporter of arms in 2017-19.[10]

From an organizational perspective, the Russian Army is divided into four military districts: Central District, Southern District, Eastern District, and Western District - each with a Joint Strategic Command.[11] The order of battle (ORBAT) of Russian armed forces has been revised to incorporate the idea of combined arms in the shape of autonomous military units called Battalion Tactical Groups (BTGs).[12] Each BTG comprises infantry, armour, artillery, air defense, and support units. These BTGs, at least in theory, are self-contained and can conduct the assigned duties without relying on organic support from other branches. The force organization in this form represents a transition from the traditional Soviet Doctrine of amassing firepower using large formations with heavy equipment.[13] Russian armed forces can independently deploy and sustain forces on an extended range beyond its borders. However, this military power projection is of a modest scale as it is limited by size, time, and economy.

After the Russian annexation of Crimea (2014), emphasis was given by Kyiv to modernize Ukraine's armed forces. Ever since, Ukraine steadily increased its military spending. In the year 2021, Kyiv allotted $4.27 billion for defense.[14] However, the country needed a more comprehensive approach to counter intensifying security challenges. The inability of Ukrainian conventional forces to effectively counter possible Russian invasion compelled Kyiv to consider joining NATO as a strategic goal.

Before the Russian invasion, Ukraine’s active ground force had raised two mountain brigades, nine mechanized brigades, two tank

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9 "World Expenditure Passes $2 Trillion for the First Time." *SIPRI.org*, April 25, 2022. https://www.sipri.org/media/press-release/2022/world-military-expenditure-passes-2-

10 Wezeman, Pieter D., Alexandra Kuimova, and Siemon T. Wezeman. "Trends in International Arms Transfers 2021." *SIPRI Fact Sheet*, March 2022: 2-3.

11 Wazeman. Trends in International Arms Transfers: 192.

12 "Russia New Generation Warfare Handbook." *Info Public Intelligence*, December 2016. https://info.publicintelligence.net/AWG-RussianNewWarfareHandbook.pdf.

13 Defense Intelligence Agency. *Russia Military Power – Building a Military to Support Great Power Aspirations – 2017*, 13.

14 International Institute for Strategic Studies (IISS). *The Military Balance 2021*. 2022, 211.

brigades, and one motorized brigade.[15] Besides reserves, Ukraine had created a territorial defense force in 2015 comprising of light arms formation of volunteer fighters.[16] The Eastern and Northern Sectors were also reinforced by armour and artillery. However, considering the scale of obsoleteness and economic limitations, the overall scope of modernization remained limited. To compensate for the shortage of manpower against the backdrop of the Russian invasion, Ukraine declared general mobilization and armed volunteer territorial defense. In parallel, thousands of foreign volunteers were encouraged to join the international brigade.

A numeric comparison of combat manpower suggests that Russia enjoyed over 4.5 times numerical superiority over Ukraine before the conflict.

Table 1: Comparative Manpower Strength of Russian and Ukrainian forces[17]

Military Manpower	**Russia**	**Ukraine**
Active Army	280,000	125,600
Active Air Force	165,000	35,000
Active Navy	150,000	15,000
Air Borne Forces	45,000	20,000
Strategic Rocket Forces	50,000	N/A
Special Operation Forces	1,000	1000
Command and Support Forces	209,000	N/A
Total Active Force	**900,000**	**196,600**
Paramilitary and Reserve Forces	2,760,000	1,002,000

The Russian army, despite being predominately equipped with Soviet-origin equipment, had a significant advantage over the Ukrainian army. The forward formations of Russian forces were structured around modernized tanks, armored vehicles, artillery, and mobile air defense systems. It was generally believed that with sheer numerical strength and moderately modernized combat capabilities, Russia would secure dominance over Ukrainian forces in quick succession.

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15 "Ukraine Ground Forces," UkrMilitary. Accessed November 17, 2023. https://www.ukrmilitary.com/p/ukrainian-ground-forces.html.

16 "Behind the Lines of Kyiv Territorial Defence Force," *Global News*, April 2, 2022. https://globalnews.ca/news/8727949/behind-the-lines-kyiv-territorial-defence-force-ukraine/.

17 International Institute for Strategic Studies (IISS). *The Military Balance 2022.* 2022, 193, 211.

Table 2: Russian and Ukrainian Land Assets Comparison[18]

Military Assets	**Russian Army**	**Ukrainian Army**
Main Battle Tanks (MBTs)	2,927	858
Infantry Fighting Vehicles (IFVs)	5,180	1,212
Armored Personnel Carriers (APCs)	6,050+	622
Artillery (Towed/SP/MRL/MOR)	4,894+	1,818
Surface to Surface Missiles (SRBM/GLCM)	150	90
SAM systems	1,520+	81+

The Russian Air Force is predominately defensive but can project power to extended ranges on a moderate scale. Although most of the Russian Air Force comprises Soviet-legacy fighter aircraft, the Russian aerospace industry has struggled to mass produce next-generation fighter aircraft like the Su-57 stealth fighter, and modern drones. However, it has upgraded its existing fleet of fighter and attack aircraft to meet modern standards. Modern combat practices like precision strike capability and network centricity of the force are, however, limited. Similarly, the fleet size of modern drones and their effective employment on the battlefield is believed to be inadequate in comparison with other modern aviation forces.

Russia employs a multi-layer air defense shield based on mobile air defense systems with varying ranges and capabilities. In parallel, Russia operates a large number of force multipliers including AEW&Cs, EW/ELINT aircrafts, and strategic bombers, which augment Russia's overall air power projection capabilities.

The Ukrainian Air Force consists of a few squadrons of basic 4th and older generation aircrafts. The force has limited beyond-visual-range combat (BVR) capability and lacks precision strike and stand-off strike capability. Though Ukraine operated the world's largest and only strategic lifter, the An-225 Mariya, its overall air life capability was also inadequate. Aerial Force multipliers like AEW&Cs and EW/ELINT aircraft were also absent. Only modern development in force was recent procurement of Bayraktar TB2 combat drones from Turkey.[19] The air defense network was moderately capable consisting of long, medium, and short-range air defenses of Soviet origin. In theory, the Russian air power enjoyed superiority over Ukrainian counterparts at the time of conflict.

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18 *The Military Balance 2022.* 194-195, 212.

19 "Ukraine Angers Russia by Buying Turkish Drones," *Bloomberg*, December 3, 2021, https://www.bloomberg.com/news/articles/2021-12-03/ukraine-

Table 3: Russian and Ukrainian Aviation Assets Comparison[20]

Aircrafts/Assets Type	Russian Air Force	Ukrainian Air Force
Fighter/Attack Aircrafts	874+	115
Bomber Aircrafts (BBR)	137	0
ISR/EW/ELINT Aircrafts	89	12
AEW&C Aircrafts	9	0
Tanker Aircrafts (TKR)	15	0
Transport Aircrafts (TPT)	448	29
Gunship Helicopters	400+	35
Transport Helicopters	333	55
SAM systems	714+	322+

The Russian Navy, split into four fleets and one flotilla, is one of the largest navies in the world. Though the majority of the Russian Navy is of Soviet vintage, it is still sufficiently capable of conducting offensive and defensive operations. Instead of decommissioning, the Russian Navy has overhauled and upgraded Soviet-era cruisers and destroyers. In recent decades, Russia has focused on developing lighter warships, including frigates and corvettes armed with modern sensors and long-range cruise missiles. The core of Russian naval strength has remained its underwater arm comprising a mix of nuclear and conventional submarines of varying capabilities.

During the Crimean crisis, Russia seized the majority of the Ukrainian surface fleet stationed in Sevastopol.[21] After this crippling loss, Ukrainian naval presence in the Black Sea practically declined to zero. Kyiv attempted to restore its naval prowess by signing deals with Turkey for Milgem-class Corvettes and TB-02 drones. The drones began delivery in 2021[22] while corvettes' deliveries are scheduled after 2023.[23] When Russia invaded Ukraine in February 2022, the Ukrainian Navy comprised a Krivak-III class frigate,[24] few gunboats and support vessels. The only considerable weapon at the disposal of Ukraine was the coast-based,

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20 *The Military Balance 2022.*200-201.

21 "Crimean Crisis: Pro-Russian Seize Ukrainian Naval Base," *BBC*, March 19, 2014. https://www.bbc.com/news/world-europe-26643141.

22 "Turkey Delivers First Armed Drone to Ukrainian Navy, Much to Russia's Ire." *Defense News*, July 26, 2021, https://www.defensenews.com/unmanned/2021/07/26/turkey-delivers-first-armed-drone-to-ukraine-much-to-russias-ire/.

23 "Ukrainian Official Reveals Number of Ada Class Corvettes on Order from Turkey," *Defense News*, July 28, 2021. https://www.defensenews.com/naval/

24 "Ukraine Conflict: Ukraine Scuttles Navy's Lone Frigate." *Janes*, March 4, 2022. https://www.janes.com/defence-news/

domestically developed Neptune anti-ship missile system, which was available in limited numbers. A numeric comparison of the naval forces of both nations is given below.

Table 4: The Fleet Distribution of Russian Navy[25] and Ukrainian Navy[26] in 2022

Naval Assets	Russian Northern Fleet	Russian Pacific Fleet	Russian Baltic Fleet	Russian Black Sea Fleet	Russian Caspian Sea	Total Russian Navy Fleet	Ukr. Navy Fleet
Aircraft carrier	1 (in refit)	0	0	0	0	1 (in refit)	0
Battlecruiser/Cruiser	2	1	0	1	0	4	0
Destroyers	5	5	1	0	0	11	0
Frigates	2	4	5	5	0	16	1
Corvettes	0	0	5	8	3	16	0
ASW Crafts/Boats	6	8	6	6	0	26	0
Missile Crafts/Boats	2	14	11	5	1	33	0
Patrol Ships	0	0	0	3	3	6	11
Mine Warfare Ships	8	10	11	10	3	42	1
Landing Ships/Crafts	8	9	13	10	9	49	2
Nuclear Submarines (SSBN/SSGN/SSN)	22 (8+5+9)	7 (3+3+1)	0	0	0	29 (11+8+10)	0
Con. Submarines	5	8	1	6	0	20	0

Russian Invasion on Ukraine

In October 2021, Russia started military deployments near Ukraine borders under the context of military exercise. On February 21st, 2022, Russian President Vladimir Putin unilaterally recognized Donetsk People's Republic and Luhansk's People's Republic as independent states.[27] By that

25 *The Military Balance 2022.*195-206.

26 *Ibid.,* 212-213.

27 "Ukraine: Putin Announces Donetsk and Luhansk Recognition," *BBC*, February 21, 2022. https://www.bbc.com/news/av/world-europe-60470900.

time, Russia had amassed over 190,000 troops near Ukraine's borders.[28] Before launching the "special military operation," the Russian command believed that Ukraine would not raise much resistance, Kyiv would collapse quickly, and the fall of Kyiv would break spirit of Ukrainian forces allowing Russian forces to achieve military objectives with ease.[29] These assumptions proved defective in very early phase of conflict and a quick limited operation transformed into a multi-phase war of attrition. The conflict progression in the form of different phases has been discussed below.

Russian Invasion (February 2022 – April 2022)

On February 24, Russia initiated the military operation by launching more than a hundred missile strikes against the Ukrainian military targets.[30] The strikes were followed by the Russian ground offense from four different fronts: the northern front from Belarus towards the capital Kyiv; North-Eastern front from Belgorod towards Kharkiv; Eastern front into Donbas region; and Southern front from Crimea across the coastal belt towards Odesa in West and Mariupol in East. The Russian objective was to penetrate deeper from multiple directions and quickly capture the key population centers of Ukraine – including the capital Kyiv, to topple the current government and install a pro-Russian regime.

The Russian forces in the North, entering Ukraine from Belarus, were tasked to quickly traverse the Chernobyl Exclusion Zone and capture the Ukrainian capital, Kyiv, located merely 75 km from the border. Supported by elite units, like VDVs and spetsnaz, Russian forces reached the outskirts of Western Kyiv within days.[31] From North-West of the Dnipro River, Russian forces invaded the cities of Chernihiv and Sumy with eventual objective of assisting the capturing of Kyiv.[32] Similarly, from the

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28 "Russia Has Amassed up to 190,000 Troops on Ukraine Border: US Warns." *The Guardian*, February 18, 2022. https://www.theguardian.com/world/2022/feb/

29 Wasielewski, Philip, "The Evolving Political-Military Aims in the War in Ukraine After 100 Days," *Foreign Policy Research Institute*, June 2022, 2-4.

30 "Missiles Rain Down Around Ukraine," *Reuters*, February 25, 2022. https://www.reuters.com/world/

31 "Fighting Reaches Kyiv as Russian Invasion of Ukraine Intensifies," *The Guardian*, February 24, 2022, https://www.theguardian.com/world/2022/feb/25/ukraine

32 "Russia Bombards Chernihiv Hours After Pledging to Halt Shelling," *The Guardian*, March 30, 2022. https://www.theguardian.com/world/2022/mar/30/

Belgorod, Russia attacked the city of Kharkiv but couldn't make any considerable progress.

In the South, the Russian forces breached the Ukrainian border from Crimea and made two prongs of East-West advance to seize Ukraine's shoreline. Towards the west, the Russian forces first captured Kherson[33] and then reached the outskirts of Mykolaiv city[34] before getting pushed back by Ukrainian defenses. Gradually, the Russian ground invasion in the South-West lost its momentum. In the South-West, however, Russian forces managed to capture the entire Eastern coastal belt and established a land connection with Donetsk in the Donbas. The biggest challenge on this front was to capture the Southern port city of Mariupol, which remained besieged for over a month by the Russian forces.[35]

In the Black Sea, Ukrainian naval presence was almost non-existent. The Russian Black Sea Fleet, led by cruiser *Moskva*, seized control of the strategically important Snake Island in the opening days of the conflict. While facing a naval blockade, Ukraine employed asymmetric means to challenge Russian naval dominance. On March 24, a Russian Alligator class landing ship stationed at Berdyansk was struck by a Ukrainian tactical ballistic missile.[36] The missile attack compelled Russia to move the warships to the Sevastopol naval base away from the potential strike range of Ukrainian missiles. Despite Ukrainian counter-attacks, the Russian Navy easily established sea control in the Black Sea and imposed a naval blockade on Ukraine.

In first phase of conflict, the intense Ukrainian resistance repulsed further Russian attacks and delivered heavy losses. The Ukrainian defensive strategy, termed by Michael Kofman as trading space for time, was based on orderly with-drawl of forces to population centers to compel Russians into urban warfare while attacking the Russians' vulnerable supply lines.[37] The strategy worked. Mounting casualties, logistical issues, and poor command and control stalled Russian offense, particularly in the North and the North-Eastern regions. This compelled Moscow to redefine its political objectives concerning the emerging realities on ground. On

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33 "Russia Says It Captures Ukrainian City of Kherson," *Reuters*, March 2, 2022. https://www.reuters.com/world/europe/russia-says-it

34 "Ukraine War in Maps: Tracking the Russian Invasion," *BBC News*, April 25, 2022. https://www.bbc.com/news/world-europe-60506682.

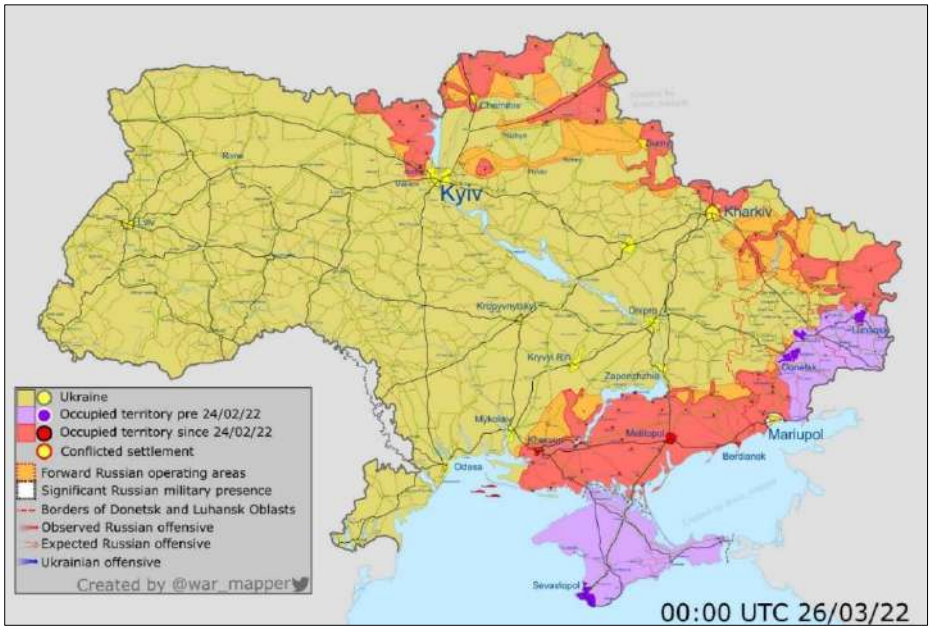
35 "Putin Claims Victory in Mariupol; Ukrainians Fighters Hold On," *Reuters*, April 21, 2022. https://www.reuters.com/world/middle-east/\

36 "In Fiery Video, Ukraine Says It Destroyed Russian Warship," *The Washington Post*, March 25, 2022. https://www.washingtonpost.com/world/2022/03/24/russian-ship-fire/.

37 Beauchamp, Zack. "Is Russia Losing?" *Vox*, March 18, 2022. https://www.vox.com/2022/3/18/

March 30th, Russia began to withdraw forces from the Northern and the North-Eastern fronts. By first week of April, Ukraine had reestablished its control over the lost territories in the Northern and the North-Eastern front.[38] In parallel, corresponding increment of Russian forces in the Donbass began to take place indicating the relocation of forces from North to East.

Figure 1: Approximate Situation of Russia-Ukraine Conflict during March 2022[39]



Halting of Russian Invasion (April 2022 – August 2022)

Despite shifting forces to Donbas, Russian armed forces failed to secure supremacy on battlefield. In North-West, Ukraine began to mount counter attacks to recapture the Kherson but failed to make any considerable progress. In North-West, Russian forces entered the city of Mariupol but a determined Ukrainian pocket of resistance in Azovastal

38 "Russian Forces Fully Withdrawn from Northern Ukraine;" *Forbes*, April 8, 2022,https://www.forbes.com/sites/roberthart/2022/04/08/russian-

39 War Mapper (@War_Mapper). "A Map of Approximate Situation on the Ground in Ukraine." Twitter, March 26, 2022, 05:00 am. https://pbs.twimg.com/media/FhWmA5iWIAABfsy.jpg.

Plant repeatedly repulsed Russian offenses. The city eventually fell to Russian forces.[40]

In the Black Sea, Ukraine secured the biggest victory on April 13 when it sank the flagship of the Russian Black Sea Fleet, the *Moskva* cruiser.[41] The cruiser sank after getting hit by a pair of shore-launched Neptune anti-ship missiles. For Ukraine, the sinking of *Moskva* marked a remarkable feat and acted as a major morale booster. Since WW-II, *Moskva* has been the largest ship to have sunk during combat.[42] *Moskva*, with its long-range air defense missiles, was a key Russian naval asset for establishing air space denial zone over the Black Sea. The sinking of *Moskva* opened up the Black Sea to the Ukrainian air power. Russian patrol vessels and assets deployed on Snake Island came under frequent attacks by the Ukrainian TB-02 drones. The persistent losses against drones and coastal anti-ship missiles eventually compelled Moscow to abandon Snake Island by the end of June.[43]

Similarly, after losing the *Moskva* cruiser and amphibious warships, Russia also lost the capability to mount an amphibious assault on the Ukrainian western coast. Thus, for Russian forces, it became nearly impossible to reach the strategically important city of Odesa. However, Russian forces in Kherson Oblast managed to capture Kinburn Spit, which granted Russia the strategic capability to block the transit between the Dnipro River and Black Sea.[44]

Throughout the second phase of the conflict, neither side made any decisive gain despite suffering major losses. Russia undertook an operational pause to regroup its forces and resumed its operation in the Donbas. But its progress remained sluggish, and the only considerable territorial objective it captured was the city of *Lysychansk*.[45] In West, Russian forces retained defensive position suggesting that Moscow had given up on the plan of capturing the western coast of Ukraine. The continuous supply of western arms helped Ukraine to halt further Russian offenses but failed to dislodge Russian army from occupied territories.

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40 "Russia Claims Capture of Ukraine's Mariupol, Ramps up Assault in East." *Voice of America*, May 20, 2022. https://www.voanews.com/a/6582949.html.

41 "The Sinking of Moskva: What Do We Know and Why Does It Matter?" *The Guardian*, April 15, 2022. https://www.theguardian.com/world/2022/

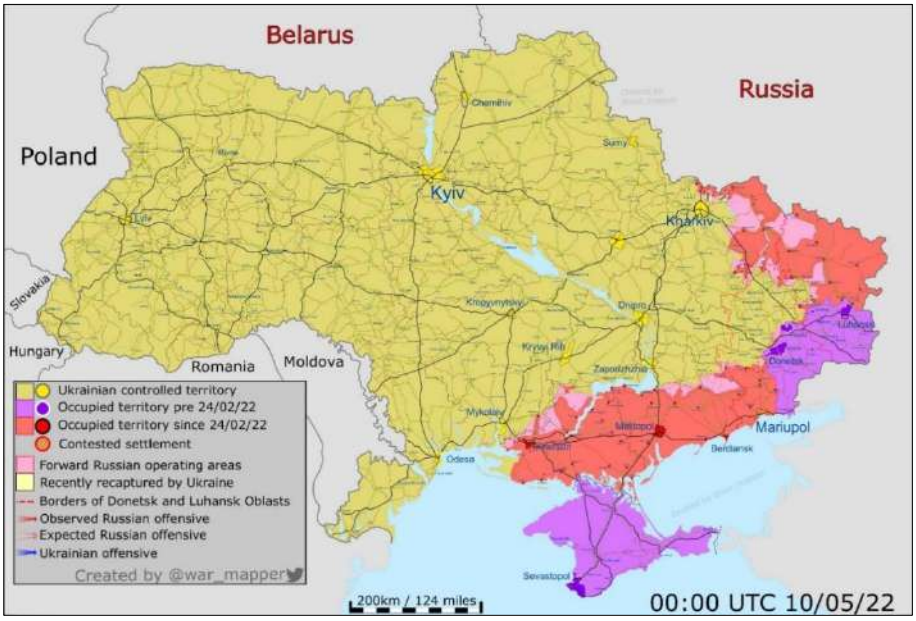
42 "Russian Warship Sinks; Ukraine Says Its Missile Is Responsible," *Reuters*, April 15, 2022. https://www.reuters.com/world/europe/

43 "Russia Slinks Away from Snake Island: How Ukraine Won the Battle?" *Forbes*, June 30, 2022. https://www.forbes.com/sites/sebastienroblin/2022/06/30/

44 "Russian Troops Liberated the Kinburn Spit, Opening the Waterway to Ochakov," *Top Power*, August 24, 2022. https://en.topwar.ru/197555-

45 "Ukraine Confirms That Russia Has Captured Eastern City Lysychansk," *BBC*, July 03, 2022. https://www.bbc.com/news/world-europe-62030051.

Figure 2: Approximate Situation of Russia-Ukraine Conflict during May 2022[46]



Ukraine's Counter-offense (September 2022 – November 2022)

The third phase of conflict began when Ukraine initiated its counter-offense in South on August 29. Throughout summer, Ukrainian leaders kept pledging to retake the Kherson oblast by launching a counter offense.[47] Before initiating the offense, Ukraine strategically targeted Russian military infrastructure, particularly ammo depots, using HIMARS to soften Russian defenses and weaken logistical support.[48] On August 08, Russia's Saki Air Base in Crimea came under attack from multiple blasts damaging multiple fighter bomber aircrafts.[49]

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46 War Mapper (@War_Mapper). "A Map of Approximate Situation on the Ground in Ukraine," Twitter, May 10, 2022, 05:00 am. https://twitter.com/war_mapper/

47 "Eyeing a City Captured by Russia, Ukraine Prepares an Ambitious Counterattack," *The New York Times*, July 28, 2022. https://www.nytimes.com/2022/07/25/world/europe/u

48 Zinets, Natalia. "Ukraine Says It Has Destroyed 50 Russian Ammunition Depots Using HIMARS," *Reuters*, July 25, 2022. https://www.reuters.com/world/europe/

49 "Satellite Pictures Show Devastation at Russian Air Base in Crimea," *Reuters*, August 11, 2022. https://www.reuters.com/world/ukraine-suggests-

Before initiating counter-offense, Kyiv retained opaqueness regarding its nature, pattern, and objective. Moscow assumed that Ukraine would attack the Kherson oblast and moved additional troops and military hardware to Kherson from the North-East. However, this assumption turned out to be a deception. The Ukrainian counter-offense was a practical manifestation of Sun Tzu's words that "all warfare is based on deception."[50] The movement of troops and equipment weakened Russian strength in North-East. Ukraine exploited this vulnerability and on September 06, launched a surprise attack on the Kharkiv oblast.[51]

Within a few days, Ukraine swept through the Russian-occupied territories in the North and compelled Russian forces to retreat. By September 14, Ukraine had reclaimed almost 8,000 square kilometers of territory in the Kharkiv oblast.[52] By the end of September, Ukrainian forces had captured the city of Lyman – a crucial Russian logistics and rail hub for supporting its troops in Donetsk.[53]

Interestingly, Russia initially dismissed these territorial losses as a regrouping strategy. Moscow's political actions were not in synergy with ground realities. For example, while Russian forces were in retreat, Putin unilaterally annexed four Ukrainian oblasts namely Luhansk, Donetsk, Zaporizhzhia, and Kherson into Russia.[54] The annexed region, roughly 90,000 square kilometers in land, was still not in complete Russian military control and repeatedly faced partisan and direct strikes by Ukraine. The attack on the Kerch Strait Bridge - connecting Crimean Peninsula with Russian mainland - on October 08 was a prime example in this regard.[55] The degradation of supply routes through bridge further strained Russian presence in the Kherson oblast.

In parallel, Ukraine also sustained counter-offense in Kherson. Despite losing some territory in the West of the Dnipro River, Russia

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50 Giles, Lionel. "The Art of War by Sun Tzu," *Classic MIT*, 2009. http://classics.mit.edu/Tzu/artwar.html.

51 "Ukraine Launches Surprise Counterattack in Kharkiv Region," *The Guardian*, September 8, 2022. https://www.theguardian.com/global/2022/sep/07

52 "Ukraine Liberated 8,000 Sq. Km in North Eastern Region of Kharkiv, Says Volodymyr Zelenskyy," *CNBC*, September 14, 2022. https://www.cnbctv18.com/world/ukraine-liberated-8000

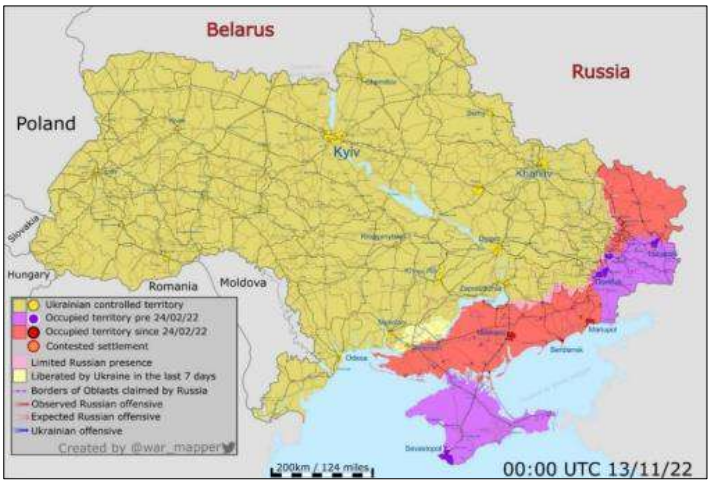
53 "Russian Troops Pull Out of Lyman as Ukraine Forces Enter," *Euronews*, October 1, 2022. https://www.euronews.com/2022/10/01/

54 Harding, Luke. "Putin Annexes Four Regions of Ukraine in Major Escalation of Russia's War," *The Guardian*, September 30, 2022. https://www.theguardian.com/world/2022/sep/30/

55 "Blast on Crimean Bridge Deals Blow to Russian War Efforts in Ukraine," *New York Times*, October 8, 2022. https://www.nytimes.com/2022/10/08/world/europe/ukraine-crimea-bridge-explosion.html.

initially retained a defense line stretching from Mylove in the North, Snirhurivka in the East, to Kherson in the South of the Dnipro River. However, resupplying Kherson – the only provincial capital in Russian control - became increasingly difficult due to the Ukrainian force's continued attack on logistical lines. On November 09, Russia eventually announced with-drawl from Kherson (West bank of Dnipro River) without fighting a decisive battle for the city.[56] However, Russian forces still controlled the Kherson region in south and east of Dnipro River, accounting for almost 60 percent of Kherson oblast. The retreat from Kherson, before the arrival of winter, marked a major defeat for Moscow as it made several key areas, including the Crimean Peninsula, vulnerable to Ukrainian rocket attacks.[57]

Figure 3: Approximate Situation of Russia-Ukraine Conflict during November 2022[58]



Ever since the liberation of Kherson, the front line has remained same with minor variations at few fronts. The war of attrition has continued and both militaries have kept striking enemy's positions with long range weapons. In February, Russia remounted offense in Eastern Ukraine to capture strategically important city of Bakhmut but failed to

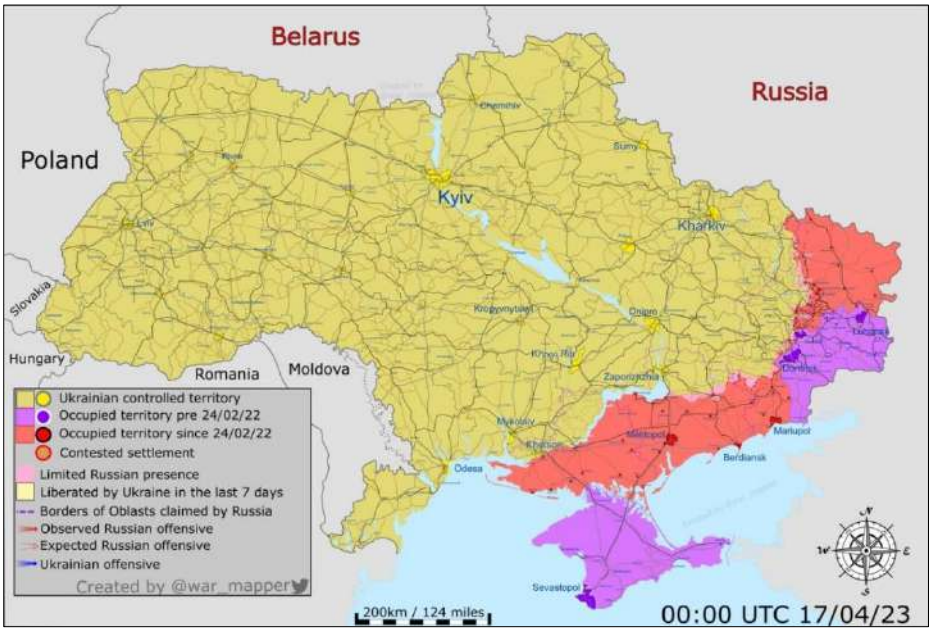
56 "Russia Says It Has Completed Its Retreat from Kherson," *Reuters*, November 11, 2022. https://www.reuters.com/world/europe/

57 Lister,"Russia's Withdrawal from Kherson Is a Humiliating Setback."

58 War Mapper (@War_Mapper) "A Map of Approximate Situation on the Ground in Ukraine," Twitter, November 13, 2022, 05:16 am. https://twitter.com/War_Mapper/status/1591585876987240448/photo/1.

attain any credible success despite suffering heavy losses.[59] Currently, Kyiv is retaining pressure on Russian occupied territory across the front before launching a new major counter-offense. The offense will mark initiation of new phase of conflict and the success rate of this offense will determine the future course of Russia Ukraine War.[60]

Figure 4: Approximate Situation of Russia-Ukraine Conflict during April 2023[61]



Combat Losses of Russia and Ukraine in Conflict

Determined resistance from Ukrainian forces, Russian incompetence in planning and execution, and inadequacy of military equipment have turned the conflict into an unsustainable war of attrition. The increased volume of lethal force used by Russian forces and intensifying Ukrainian resistance has mounted the sum of causalities on both sides.

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59 ""Ukraine War: Battle for Bakhmut 'Stabilizing'." *BBC News*, March 25, 2023. https://www.bbc.com/news/world-europe-65072173.

60 Lister, Tim. "Ukraine Is Preparing to Strike Back Again." *CNN*, April 6, 2023. https://edition.cnn.com/2023/04/06/europe/ukraine-strike-back-offensive-russia-intl/index.html.

61 War Mapper (@War_Mapper). "A Map of Approximate Situation on the Ground in Ukraine." Twitter, April 17, 2023, 05:29 am. https://twitter.com/War_Mapper/status/1647759127588773889/photo/1.

The official estimates of the office of the United Nations High Commissioner for Human Rights (OHCHR) suggest that as of April 02, 2023, more than c 8,451 civilian lives have been lost, and over 14,156 people have reportedly been injured.[62] UN, however, believes that actual figure will be far higher than current estimates. Similarly, as of March 28, 2023, almost 20 million refugees have left their homes and moved to neighboring countries.[63]

The official sources of both sides have repeatedly claimed inflated number of enemy troops killed in action. On April 17, 2023, Ukrainian General Staff stated that over 112,470 Russian troops have been killed since the start of invasion.[64] Some sources claim that as many as 270,000 Russian troops have been killed or wounded in Ukraine.[65] Russia's last official account of war causalities was given by Russian Defense Minister, Sergey Shoigu, on September 21, 2022. He stated that 5,937 Russian and 61,207 Ukrainian troops had been killed to date.[66] Mediazona, an independent Russian media outlet, has calculated Russian military deaths to be 19,668 and the Ukrainian death toll at 14,300 as of April 06, 2023.[67] Pentagon's sources estimate Russian causalities between 189,500 - 223,000, with 35,500 – 43,000 servicemen killed in action.[68]

Oryx, an OSINT forum, has calculated Russian and Ukrainian military equipment losses by utilizing imaging and photographic evidence. The details of these losses are tabled below.

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62 "Number of Civilian Casualties in Ukraine as Confirmed by OHCHR." *Statista*, April 2, 2023. https://www.statista.com/statistics/1293492/ukraine-war-casualties/.

63 "Number of Refugees from Ukraine to Neighboring Countries." *Statista*, March 28, 2023. https://www.statista.com/statistics/1293403/cee-ukrainian-refugees-by-country/.

64 "Russian Military Death Toll in Ukraine Rises to 112,470." *Ukrinform*, April 17, 2023. https://www.ukrinform.net/rubric-ato/3649584-russian-military-death-toll-in-ukraine-rises-to-112470.html.

65 Axe, David. "It's Possible 270,000 Russians Have Been Killed or Wounded in Ukraine." *Forbes*, February 7, 2023. https://www.forbes.com/sites/davidaxe/2023/02/07/its-possible-270000-russians-have-been-killed-or-wounded-in-ukraine/?sh=2f6aa67c2eec.

66 "Russia Reveals Military Losses in Ukraine." *RT News*, September 21, 2022. https://www.rt.com/russia/563213-ukraine-donbass-military-losses/.

67 "Russian Casualties in Ukraine – Count Updated." *MediaZona*, April 6, 2023. https://en.zona.media/article/2022/05/11/casualties_eng.

68 "Ukraine War: Pentagon Leaks Reveal Russian Infighting over Death Toll." *BBC News*, April 14, 2023. https://www.bbc.com/news/world-europe-65260672.

Table 5: Russian[69] and Ukrainian[70] Military Equipment Losses

Military Assets Type	Russian Losses (Destroyed/Damaged/ Captured)	Ukrainian Losses (Destroyed/Damaged/ Captured)
Tanks (MBTs)	1900	479
Armored Vehicles	4248	1379
Artillery (MLRS/SPA)	769	299
Air Defense Systems	122	95
Support Vehicles	2586	685
Fixed wing aircrafts	79	61
Rotary wing aircrafts	81	29
Drones	212	110
Naval Vessels	12	25

Analyzing Technological Failures of Russian Armed Forces

The ongoing Russian-Ukrainian conflict has exposed the limitations of Russian hard power. The mounting Russian losses, both material and mortal, can be attributed to conservative war fighting methodology, defective intelligence, inadequate training, poorly organized logistics, the rigid chain of command, poor morals, foreign military support to Ukraine, and technological limitations of Russian military equipment.[71] The technological deficiencies in Russian forces, which have played a paramount role in undermining Moscow's military objectives in initial phases of the war, deal with land, air, and naval forces. Details of a few major limitations are discussed below.

Limitations of Airpower

As discussed earlier, the Ukrainian Air Force was near obsolete and was in no position to challenge the Russian Air Force. Numerous

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69 "Documenting Russian Equipment Losses During the 2022 Russian Invasion of Ukraine," *Oryx*. https://www.oryxspioenkop.com/2022/02/

70 "Documenting Ukrainian Equipment Losses During the 2022 Russian Invasion of Ukraine," *Oryx*. https://www.oryxspioenkop.com/2022/02/attack-on-europe-documenting-ukrainian.html.

71 Denys Davydenko,"Lessons for the West: Russia's Military Failures in Ukraine," *European Council on Foreign Relations*, August 11, 2022. https://ecfr.eu/article/lessons-for-the-west-russias-military-failures-in-ukraine/.

Ukrainian aerial assets, including 1/5th of the Mig-29 fighter aircraft fleet, were destroyed on the ground by Russian pre-emptive missile strikes.[72] The world's largest cargo aircraft, An-225 Mriya, was also destroyed on the ground during the battle for Kyiv.[73] However, the Ukrainian air defense systems survived initial Russian strikes and helped in retaining air defense envelop over Ukrainian air space. The Russian Air Force performed rather limited sorties and did not undertake comprehensive operations to nullify Ukrainian air defense capabilities.[74] Thus, despite the near obliteration of the Ukrainian combat aircrafts fleet, the airspace above Ukraine has remained contested.

The lack of SEAD-DEAD (Suppression of Enemy Defense – Destruction of Enemy Defense) operations can primarily be attributed to technological limitations of Russian Air Force. In brief, there are two important requisites for conduct of successful SEAD-DEAD operations. First, dedicated Electronic Warfare (EW) suite is needed to jam or disrupt enemy's active-sensors and communications. EW suite also provides safety against hostile SAMs.[75] Second, modern munitions like Anti-Radiation Missiles (ARMs) and stand-off weapons (SOWs) are required to destroy enemy air defense assets. ARMs, equipped with passive seeker, are directed to home-in on radio emission sources like radar units and radio communication networks.[76] Similarly, fire and forget stand-off guided munitions are used for destroying SAM sites from safe distance.[77]

Unlike the U.S., which has specialized SEAD-DEAD formations, Russia treats SEAD-DEAD at the tactical level and does not employ dedicated units for these operations. Almost 30 percent of air operations by NATO in the initial conflict phase are directed to engage and destroy air

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72 "New Footage Shows One Fifth of Ukraine's Mig-29 Fleet Destroyed in Russian Missile Strike," *Military Watch Magazine*, February 27, 2022. https://militarywatchmagazine.com/article/new-footage-

73 "Antonov An-225 Mriya: World's Largest Plane Wrecked in Kyiv Fight," *Al Jazeera*, April 9, 2022. https://www.aljazeera.com/news/2022/4/9/

74 "Investigating Russia's Lack of SEAD/DEAD Capabilities over Ukraine," *Key Aero*, August 19, 2022. https://www.key.aero/article/

75 Mike Pietrucha, "The Need for SEAD: The Nature of SEAD," *War on Rocks*, May 17, 2016. https://warontherocks.com/2016/05/the-need-for-sead-part-i-the-nature-of-sead/.

76 "Does Ukraine Now Have AGM-88 Anti-Radiation Missiles?" *The Drive*, August 7, 2022. https://www.thedrive.com/the-war-zone/does-ukraine-.

77 Gunzinger, Mark. "Stand In, Standoff." *Air Force Magazine*, July 1, 2020. https://www.airforcemag.com/article/stand-in-standoff/.

defenses of the enemy.[78] In contrast, Russian doctrinal posture gives no primary importance to such operations due to technological, operational, organizational and budgetary limitations of Russian Air Force. As a result, Russian pilots lack the expertise and experience for SEAD-DEAD missions. These deficiencies undermined the air superiority efforts of Russian air power.

Besides the aforementioned limitations, Russian Air Force also has inadequate stand-off precise munitions and targeting sensors. These munitions allow accurate targeting from a safe distance and altitude. This not only adds to the high success rate of the mission but also significantly lowers the risks of exposure to enemy air defenses. The insufficiency of this capability, further degraded by the presence of Ukrainian S-300 long-range air defense systems, compelled Russian aircraft to fly at low altitudes to evade radar coverage and engage targets with unguided weapons.[79] The flight at low altitudes increases vulnerability against man-portable air defense systems (manpads). As a result, over 100 fixed and rotary wing aircrafts have been shot down by Ukrainian defenses in initial phases of conflict.[80] This subsequently led to less usage of air power which significantly hampered Russian combat prowess in land as well as naval domain.

Deficiencies of Ground Forces

The lack of air cover allowed Ukrainian resistance to employ asymmetric countermeasures against Russian ground forces. The high number of losses can also be attributed to several technological limitations of Russian ground forces, few of which are discussed below.

The military hardware used by Russian forces is generally non-modular and designed to perform specified tasks. Simultaneous employment of various generations of military systems complicated the command & control, operability, maintenance, and logistics. Different systems belonging to different generations of technology created

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78 Bronk, Justin. "Getting Serious About SEAD: European Air Forces Must Learn from the Failure of Russian Air Force over Ukraine." *RUSI*, April 6, 2022. https://rusi.org/explore-our-research/publications/rusi-defence-systems/

79 "Russian Pilots Have No Choice but to Fly Straight Through Ukraine's Man-Portable Missiles," *Forbes*, March 16, 2022. https://www.forbes.com/sites/davidaxe/2022/03/16/r

80 "List of Russian Aircraft Losses During Russian Invasion of Ukraine," *Oryx*. https://www.oryxspioenkop.com/2022/03/list-of-aircraft-losses-during-2022.html.

compatibility issues, thus causing complications in command and control.[81]

Most of the Russian armour fleet is of Soviet vintage, as Russia has been unable to develop and mass-produce modern tanks. The top-of-line T-90A/M series is operational in limited numbers. The rest of the fleet is based on modernized versions of T-72 (T-72B3) and T-80 (T-80BVM). Despite modernization in armour, powerplant, and fire control systems, these tanks still lack credible hunter-killer capability and active protection systems. This degrades the tank's situation awareness and protection. Additionally, due to the carousel autoloader tank design, a single successful penetration in autoloader can ignite the rounds and blow up the entire tank.[82] As a result, Russian tanks became easy victims of modern anti-tank weapons like Javelin, NLAW, and Stugna-P.

Russian logistics have also proven to be a weak link in its military operations. Russia has an extensive rail network optimized for military movements. But outside Russian territory, Russian forces have to rely on trucks columns for maintaining the supply line. In initial phase of conflict, the deeper penetration of Russian forces overstretched their logistical lines. Ukrainian forces targeted the vulnerable truck columns and ground lines of communications to disrupt supply connectivity with Russian forces. Resulting ammo, fuel, and food shortages compelled Russian troops to abandon their vehicles and other equipment.[83]

Additionally, Russia is overwhelmingly dependent on land-based artillery for fire support. In contrast to NATO, which emphasizes the relatively precise use of high explosives, the Russian military relies on mass firepower to overcome fortified defenses. Though abundant in number, Russian artillery is mediocre at best and lacks range and precision. This is why Russian artillery strikes have been poorly directed and not agile enough to do effective counterbattery fights. To compensate for these capability gaps, Russia has relied on mass firepower, burdening logistics even further.[84]

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81 Michal Fiszer, "Why Are Russian Forces Fighting in Ukraine So Primitive?" *Discourse Magazine*, May 31, 2022. https://www.discoursemagazine.com/

82 "Why Do Russian Tanks Explode Violently When Hit?" *Forbes*, April 1, 2022. https://www.forbes.com/sites/davidhambling/

83 Denys Davydenko, "Lessons for the West: Russia's Military Failures in Ukraine," *European Council on Foreign Relations*, August 11, 2022. https://ecfr.eu/article/lessons-for-the-west-russias-military-failures-in-ukraine/.

84 Jack Watling,"Russia's Underperforming Military Capability May Be Key to Its Downfall." *The Guardian*, September 18, 2022. https://www.theguardian.com/world/2022/

Similarly, network centricity is an essential component of modern war-fighting. However, Russian forces, with few exceptions, have been unable to demonstrate any credible network-centric capability. There has been little evidence of Russian forces' usage of computerized data exchange and digital mapping. Moreover, the efficiency of Russia's intelligence, surveillance, and reconnaissance (ISR) capabilities has remained questionable. Once perceived as a dominant power in the electromagnetic spectrum, the Russian army is yet to demonstrate its perceived electronic warfare (EW) capability.[85]

Shortcomings in the Naval Front

Considering the force disparity between the Ukrainian Navy and the Russia Black Sea Fleet, Russian naval superiority in Black Sea was highly anticipated. Regardless of limitations in the naval front, Ukrainian forces threatened Russian naval forces with asymmetric measures consisting of drones and shore-based missiles. Although Russian Navy successfully imposed naval blockade in initial phase of conflict and conducted several cruise missile strikes against targets in Ukraine,[86] but it failed to retain its dominance in Black Sea, lost control of Snake Island, and was also unable to launch amphibious operations across Ukrainian coastline.

The increment in the number of drone strikes against Russian vessels has demonstrated how the northern Black Sea became a safer place for Ukrainian air power after the sinking of the *Moskva* cruiser.

A distinctive feature of conflict in the Black Sea has been the employment of aerial drones in naval combat. Instead of relying on traditional means, TB02 UCAV earned a reputation as a weapon of choice for the Ukrainian navy to counter Russian naval dominance. However, TB02 does not carry anti-ship missiles and is only equipped with laser-guided micro munitions. However, lower radar signature and high endurance allow TB02s to be utilized for over-the-horizon (OTH) sensor coverage for ISR duties. These characteristics of TB02 augmented the capabilities of other conventional assets, as is evident in the sinking of the *Moskva* cruiser and *Vasily Bukh* rescue tugboat.[87] Besides acting as a force

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85 Tanmay Kadam,"Russian Electronic Warfare Capability Exposed in Ukraine War." *The Asian Times*, April 18, 2022. https://eurasiantimes.com/russia

86 "Russia Launches Kalibr Cruise Missiles on Ukraine from the Black Sea," *Navy Recognition*, September 12, 2022, https://www.navyrecognition.com/index.php/naval-news/naval-news-archive/2022/september/

87 "Listing Russian Equipment Destroyed by Bayraktar TB2s," *Oryx*, June 27, 2022. https://www.oryxspioenkop.com/2022/02/

multiplier, TB02 also directly engaged numerous targets in the Black Sea and destroyed several patrol vessels.[88]

Since Turkey has closed the Dardanelles and Bosporus straits to warships under the Montreux Convention (1936),[89] Russia can no longer send surface combatants to fill up the losses of its Black Sea Fleet. These losses have undermined Russian ambitions of launching an amphibious assault at the Western coast of Ukraine, caused loss of Snake Island, and compromised Russian ability to sustain sea control in Black Sea.

As far as the naval front is concerned, losses on the Russian side can be attributed to three major reasons. First, as described earlier, air power is absent in the naval theater. Employment of air power in the naval theater would not only have secured air superiority over the Black Sea but would also have undermined Ukrainian efforts of deploying shore-based anti-ship missile systems. It would also have granted airborne ISR, which would have augmented Russian situation awareness and strike prowess by many folds.

Second, the limited air defense capability of the Black Sea Fleet allowed Ukraine to mount missile and drone attacks against Russian assets. Black Sea Fleet was overwhelmingly dependent on *Moskva* for area-defense, and once the cruiser was sunk, Russia had no credible means to thwart Ukrainian air power. The growing losses forced the Russian Navy to hastily install air defence systems on Snake Island and to rely on *Shtil-I* medium-range air defence systems on Admiral Grigorovich class frigates for protective air coverage.[90] However, this strategy did little, and the losses of Russian patrol and landing crafts against TB02 UCAVs continued.

Third, poor situation awareness, chiefly due to the absence of sufficient ISR and the outdated sensor suite of the Russian Navy, undermined Russia's ability to mount defense against surprise attacks. For example, the *Moskva* cruiser was caught off-guard due to a poor sensor suite. Despite having triple-layer air defense comprising of long-range S-300F SAMs, short-range Osa-MA SAMs, and six AK-630 CIWS (close-in weapon systems),[91] it was still unable to timely detect and intercept the upcoming sea skimming subsonic missiles.

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88 "Ukrainian TB2 Striking Two Russian Raptor Class Assault Boats," *Naval News*, May 2, 2022. https://www.navalnews.com/naval-news/2022/05/

89 "Turkey Closes Dardanelles, Bosporus Straits to Warships," *USNI News*, February 28, 2022. https://news.usni.org/2022/02/28/

90 David Axe, "The Russian Frigate Admiral Makarov Might Be the Juiciest Target in the Black Sea," *Forbes*, May 6, 2022. https://www.forbes.com/sites/davidaxe/2022/05/06/

91 David Axe, "Russian Cruiser Moskva Dominates the Black Sea." *Forbes*, January 20, 2022. https://www.forbes.com/sites/davidaxe/2022/01/20/

Fourth, although Ukraine has pre-dominantly established sea-denial envelopes in the Northern and Western regions of the Black Sea, Russia's Black Sea fleet still retains the capability to effectively engage Ukrainian targets with cruise missiles. However, with a limited stockpile of sea-launched cruise missiles and no other low-end guided weapon at its disposal, the Black Sea Fleet can neither provide sustained firepower nor engage against low-tier threats at long ranges. Therefore, a sufficient arsenal of cruise missiles and a diversity of guided weapons is crucial for engaging multi-spectrum threats. This is the reason that the employment of asymmetric tactics by Ukraine, primarily based on coastal missile batteries, mines, and drones, has successfully pushed the Russian navy from the North-Western Black Sea to the naval base of Sevastopol and the shores of the Russian mainland.

Western Military Support to Ukraine

In the initial phase of the conflict, the U.S. and its allies were reluctant to provide any significant military support to Ukraine. Initially, U.S., UK, Germany and Sweden supplied man-portable weapons like anti-tank guided missiles (ATGMs), including Javelin and N-LAW, and man-portable air-defense systems (MANPADS) like Stinger and Starstreak.[92] This allowed Ukrainian forces to target low flying aircraft and armoured vehicles with precision. The enhanced lethality of these weapons allowed Ukrainian forces to slow down or halt Russian advance at various fronts in the initial phase of the war.

As the Ukrainian resistance succeeded in repelling Russian offense, the Western stance towards providence of military support also changed substantially. When Ukraine began to prepare counter-attack after halting Russian offense, Western nations decided to supply heavy weapons to Ukraine.

United States, Germany, United Kingdom delivered modern tanks including Abram M1, Leopard 2A6, Challenger 2 MBTs, and armoured fighting vehicles including Bradley IFV, Stryker AFV, and Warrior IFV.[93] United States also provided armoured vehicles (200 M-113 APCs, hundreds of Humvees), towed howitzers (126x M-777 ULH with Excalibur GPS guided rounds), guided rocket systems (HIMARS), NASAMS air defense systems, 20 Mi-17V5 helicopters, HARM anti-radiation missiles,

92 "What Weapons Have Other Countries Supplied To Ukraine?" *The Guardian*, March 17, 2022, https://www.theguardian.com/world

93 "Ukraine Weapons: What Tanks And Other Equipment Are The World Giving?" *BBC News*, Feb 22, 2023, https://www.bbc.com/

switchblade loitering munitions, recon UAVs, radar units, and supportive equipment.[94]

From United Kingdom, Ukraine received armored vehicles (40x CVR-T AFV, 80x Husky IMVs, and Mastiff MRAPs), 105mm towed artillery (50x L118/119), 155mm self-propelled artillery (20x M109A4), rocket artillery (3x M270B1), mobile air defense system (Stromer HVM), and Brimstone missiles in initial phases of war.[95] Germany gave 155mm self-propelled artillery (PzH-2000 SPA), M-270 MLRS, Gepard air defense artillery and one battery of IRIS-T SLM air defense system to Ukraine.[96] Turkey supplied more than dozen Bayraktar TB-02 armed drones to Ukraine,[97] and hundreds of armored vehicles.[98] Czech Republic supplied Soviet era heavy weapons including dozens of T-72M1 tanks, armored vehicles, and towed, self-propelled and rocket artillery to Ukraine.[99] Poland provided more than 230 T-72 M/M1R tanks alongside armored vehicles and artillery.[100] Slovakia sold 8 units of 155mm Zurzana self-propelled artillery and one battery of S-300PMU air defense system.[101]

Australia,[102] Canada,[103] France,[104] Italy,[105] Portugal,[106] Netherlands[107] and Norway[108] also supplied armored vehicles and 155mm

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94 "Weapons to Ukraine: Which Countries Have Sent What?" *Aljazeera*, June 05, 2022, https://www.aljazeera.com/news/2022/6/5

95 "UK Confirms Supply Of Vehicles, Drones And Anti-Tank Weapons To Ukraine," *Reuters,* April 23, 2022, https://www.reuters.com/world/europe/uk-

96 "Germany Steps up Weapons Aid to Ukraine," *Radio Free Europe*, May 06, 2022, https://www.rferl.org/a/ukraine-germany-supplying-howitzers-antiaircraft/31837562.html; also see, "Germany To Supply Modern IRIS-T Air Defense System To Ukraine," *Aljazeera*, June 01, 2022, https://www.aljazeera.com/news/2022/6/1/germany-to-send-kyiv-anti-aircraft-missiles-radar-systems

97 "What Do We Know About Ukraine's Use Of Turkish Bayraktar Drones?" *AlJazeera*, March 11, 2022, https://www.aljazeera.com/news/2022/ 3/11/

98 "Ukraine Claimed to be Provided Turkish BMC-Made Personnel Carriers," *Daily Sabah*, August 09, 2022, https://www.dailysabah.com/business/ defense/

99 "Czech Republic Sends Tanks And Infantry Fighting Vehicles To Ukraine," *Reuters*, April 5, 2022, https://www.reuters.com/world/europe/czech-republic-sends-tanks-ukraine-czech-tv-reports-2022-04-05/

100 "UK Offers Tanks To Poland In Bid To Help Ukraine," *The Independent*, April 23, 2022, https://www.independent.co.uk/news/

101 "Slovakia Gives S300 Air Defense System to Ukraine," *VOA*, April 8, 2022, https://www.voanews.com/a/

102 "Australia Joins The Ukraine Bandwagon; Agrees To Supply Heavy Weapons To Kiev To Battle Russia," *The Eurasian Times*, April 28, 2022, https://eurasiantimes.com

towed and self-propelled artillery units to Ukraine. Similarly, Baltic nations including Estonia, Lithuania, and Latvia, also donated military equipment to Ukraine.[109] Numerous air defense batteries with varying ranges and capabilities were transferred to Ukraine by Western allies. These air defense systems were crucial in denying effective employment of Russian air power and in intercepting ballistic and cruise missile threats.[110]

On the naval front, an undisclosed number of Harpoon missiles and coastal launchers were supplied by Denmark, the United Kingdom, and the United States.[111] Similarly, Sweden also provided Robot-17 coastal defense missiles to augment Ukrainian coastal defense.[112] U.S. supplied patrol boats and the undisclosed type and number of unmanned underwater vehicles (UUVs) was delivered by Germany, Belgium, and Netherlands.[113]

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103 "Canada has sent heavy artillery and ammunition to Ukraine," *CTV News*, April 23, 2022, https://www.ctvnews.ca/canada/canada-has-sent-heavy-artillery-and-ammunition-to-ukraine-1.5872534

104 "France sending significant equipment to Ukraine to fight Russia," *Al Jazeera*, April 22, 2022, https://www.aljazeera.com/news/2022/4/22/france-sending-heavy-weapons-significant-equipment-to-ukraine

105 "Italy MULLS SENDING HOWITZER TO UKRAINE," *Politico*, June 29, 2022, https://www.politico.eu/article/italy-send-howitzer-ukraine-mark-rutte-dutch-pm/

106 "Portugal Approves Delivery To Ukraine of 15 M113 APCs and 5 M114 155mm Howitzers," *Army Recognition*, May 09, 2022, https://www.armyrecognition.com/defense_news_may_2022_global_security_

107 "The Dutch Are Sending German Armoured Howitzers To Ukraine," *Forbes*, April 21, 2022, https://www.forbes.com/sites/sebastienroblin/2022/04/21/

108 "Norway Supplies Self-Propelled Howitzers To Ukraine," *Army Technology*, June 09, 2022, https://www.army-technology.com/news/norway-m109-self-propelled-howitzers-ukraine/

109 "Weapons to Ukraine: Which Countries Have Sent What?" *Aljazeera*, June 05, 2022, https://www.aljazeera.com/news/2022/6/5/weapons-to-ukraine-which-countries-sent-what

110 "Answering the call – Heavy Weapons Supplied to Ukraine," *Oryx*, https://www.oryxspioenkop.com/2022/04/answering-call-heavy-weaponry-supplied.html

111 "Ukraine receives Harpoon missiles, says Defense Minister," *Reuters*, May 29, 2022, https://www.reuters.com/world/europe/

112 "Sweden Is Sending Robot-17 Coastal Defense Missiles To Ukraine," *The Drive*, June 02, 2022, https://www.thedrive.com/the-war-zone/

113 "Answering The Call – Heavy Weapons Supplied To Ukraine," *Oryx*, https://www.oryxspioenkop.com/2022/04/answering-call-heavy-weaponry-supplied.html

Capability wise, the armaments being supplied to Ukrainian forces can be split into two broad categories. First, weapons of Soviet heritage were given in large quantities from stocks of Western nations. These weapons were readily available and did not demand comprehensive additional training. However, these weapons offered no qualitative advantage over Russian counterparts. Second, NATO standard modern weapons offered a major qualitative edge over Russian systems but were available in limited numbers and required time-consuming additional training before deployments.

Ukrainian forces have employed Soviet-era weapons as a bulk while high-end assets have been used at key fronts. For example, HIMARS has been used to precisely hit strategically critical Russian installations situation behind the combat zone.[114] This significant military aid is in addition to the provision of intelligence support to Kyiv by U.S. and Western allies, which allowed Ukraine to keep information superiority over Russian counterparts. The continuous military support to Ukraine undermined the overall efficiency of the Russian offense and significantly strengthened Ukrainian counter-offensive capabilities. Ukraine was able to retake lost territories in Kharkiv and Kherson, and thwarted Russian navy in Black Sea, primarily due to western military support.

In sum, Western military assistance played a decisive role in enabling Ukraine to counter Russia's initial offensives by capitalizing on key Russian technological and operational shortcomings. Russia's reliance on outdated command structures, logistical inefficiencies, and vulnerability to precision strikes allowed Western-supplied military assets to maximize their effectiveness. By equipping Ukraine with advanced capabilities in firepower, surveillance, and air defense, the West helped neutralize Russian advantages in conventional warfare and disrupted their offensive momentum. This support not only strengthened Ukraine's resilience but also forced Russia into a prolonged war of attrition, highlighting the effectiveness of modern Western military technology against Russia's traditional war-fighting approach.

Conclusion

When Russia invaded Ukraine, many analysts and observers believed that the conflict would not last for more than a few weeks. Russian ambitions were to establish Ukraine as a buffer against NATO's eastward expansion. Nevertheless, Ukraine's determined resistance, and consistent support by the West turned the conflict into an unsustainable

[114] "Ukraine Says It Has Destroyed 50 Russian Ammunition Depot Using HIMARS," *Reuters*, July 25, 2022, https://www.reuters.com/world/europe/

war of attrition. Despite having overwhelming conventional superiority, Russia was unable to achieve any considerable military objective in the initial phases of the war. Instead, Moscow was compelled to abruptly reshape its policies with respect to rapidly transforming battlefield situations. This proves that numeric comparison of forces does not give a precise reflection of the hard power of any military. Problems like the economic degradation leading to subsequent military budget cuts, decline in military R&D, retaining of conservative military planning and execution process, inadequate training, abundance of outdated military equipment and inability to develop new systems for force modernization have hampered the net military capability of Russia.

Furthermore, the findings strongly support the hypothesis that technological limitations in Russian armed forces significantly contributed in degrading the efficiency of Russian hard power. Russia's inability to fully implement RMA principles—particularly in network-centric operations, precision warfare, and electronic dominance—neutralized much of its numerical and firepower superiority. In contrast, Ukraine, despite being conventionally weaker, effectively exploited RMA-driven warfare strategies through superior ISR integration, decentralized command structures, and real-time intelligence coordination with Western allies. These technological and doctrinal gaps not only weakened Russia's offensive momentum but also altered the strategic balance of the conflict.

Thus, despite paying a heavy price in terms of life and material, Russia suffered failure as far as the achievement of initially planned political and military objectives in Ukraine was concerned. The Russian military failures in the initial phase of the Russia-Ukraine war have highlighted crucial lessons for modern militaries that still rely on traditional war-fighting strategies and military equipment. The importance of modern armoured and artillery systems, long-range precise munitions, employment of niche technologies, robust supply chains, network-centricity and advanced ISR capabilities have been underscored as essential elements for success in modern conflicts. Consequently, modern militaries must evolve beyond conventional doctrines and incorporate advanced technology and adaptive strategies to remain effective in future warfare.

THE ROLE AND IMPACTS OF SPACE TECHNOLOGY IN THE TRANSFORMATION OF CONFLICTS

Dr Neslihan Topcu Alparslan*

Abstract

The study examines how space technology has transformed conflicts and, more recently, what kind of gains space technologies have provided in conflicts. The study has been prepared within the framework of historical analysis, comparison, technological impact analysis, and an interdisciplinary approach. The study presents the evolution of conflict from the past to the present and how inventions and technological advances have diversified conflict tools, actors, and effects. The study also focuses on how space technologies have contributed to conflicts, the defence-based impacts of space technologies, and the support they provide to conflicts. Space-based technologies substantially enhance national defence and ensure security in both terrestrial and extra-terrestrial domains. These technologies facilitate advanced intelligence acquisition, contributing to strategic deterrence and bolstering defence frameworks. However, they simultaneously expose critical infrastructures to heightened vulnerabilities, as potential adversaries could target space assets. The militarization of space introduces a dual-edged dynamic, where the advantages of strengthened defence are tempered by emerging risks that necessitate comprehensive governance and mitigation strategies to maintain global security and prevent escalation.

Keywords*: International Relations, Conflicts, Space Technology, Impacts*

Introduction

History has witnessed thousands of conflicts between states. The means of conflict have changed according to the conditions of the period, but conflicts have always existed. It is difficult to imagine a

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world without conflicts, as states see it as a legitimate right to engage in conflict to protect their national interests. Since no balance is entirely satisfactory to all parties concerned, no balance can last forever, and every balance is vulnerable.[1] It is an unexpected phenomenon that all parties come together on common ground, it can be said that conflicts will continue to be among the mentioned issues for a long time.

As conditions change and humanity continues to develop, the size, impact, tools and damage caused by conflicts have grown. The introduction of new technology in the political, social, or economic spheres may also mark the beginning of change, which gradually alters the dominant mindset.[2] Humanity has developed in technology, but the same development has not been as advanced in inter-state relations as it has in technology. While technology brings about various changes and conveniences in many areas, particularly in political and social life, its impact extends far beyond these spheres. From the invention of the steam engine to the present day, information and communication technologies have significantly influenced global politics, fostering more intense dialogue and cooperation between states on a variety of issues. These technological advancements have not only facilitated international collaboration but have also contributed to the evolution of conflicts, pushing them into new dimensions.

In recent years, space-based technologies have come to the forefront to strengthen the states' defence. Space technologies that gain functionality in connection with satellites provide various opportunities to the parties in conflict. While conventional power is gradually losing importance in terms of military equipment, such as the number of soldiers and tanks and rifles, technological advances such as satellite technologies, location detection systems, and remote-control mechanisms are gaining importance. In order to strengthen land, sea and air defences, a state must modernize these defence areas by using space technologies. A defence that is not integrated with space technologies cannot be expected to produce the desired results.

In the field of International Relations, there are numerous studies where space technologies are analysed within the context of security. Due to the increasing influence of technology and its integration with various fields, it has gradually begun to hold a significant place within the discipline of International Relations. Looking at the literature, studies on space technologies and security can generally be categorized into three groups. First, studies focused on whether space will become a new

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1 Mohammed Rabie, Conflict Resolution and Ethnicity (Westport, Conn.: Praeger, 1994).

2 *Ibid.*

battlefield are prominent.[3] Second, there are discussions regarding the sustainability of security in space.[4] Finally, there are studies examining the relationship between space technologies and the defence.[5] This study addresses a topic similar to the third group of studies. However, unlike these studies, it explores how space technology directly impacts conflicts, rather than its influence on the defence.

While preparing the study, firstly the historical background was used. This allowed for the observation of the role of technology in the transformation of the nature of conflicts. Secondly, a comparative analysis was used. Through comparative analysis, the transition between conflicts in the traditional era and the information age is highlighted. Thirdly, the study is supported by a technological impact analysis. This analytical method questions the impact of technology on conflicts. Finally, an interdisciplinary approach was adopted. A connection was established between two different disciplines, namely international relations with conflict and engineering with space technologies.

The study consists of two main sections. In the first section, the changing nature of conflicts and the role of technology in this change are examined. This examination is approached through tools, actors, and impacts. In the second section, the study focuses on the opportunities that space technologies provide in conflicts.

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3 Bleddyn E. Bowen, War in Space: Strategy, Spacepower, Geopolitics (Edinburgh: Edinburgh University Press, 2020); Radosław Bielawski, "Space as a New Category of Threats to National Security". Safety & Defence 5, no. 2 (2019): 1-7; Eirik Billingsø Elvevold, War in Space: Why Not? A Neorealist Analysis of International Space Politics (1957-2018). Master Thesis. (Lisbon: Universidade Nova de Lisboa, 2019).

4 Nonthapat Brave Pulsiri and Victor dos Santos Paulino, "The Green Path to Space Sustainability: Twenty Years of Research", International Journal of Technology, Management and Sustainable Development 22, no. 3 (2024): 299-318; Olga Stelmakh-Drescher, "Long Term Sustainability of Outer Space Activities and Space Traffic Management". Advanced Space Law 12, (2023): 82-86; Kaitlyn Johnson, "Space Sustainability and Debris Mitigation", Key Governance Issues in Space Report. Washington DC: CSIS, 2020).

5 Alime Özyıldırım, "Space from Perspective of National Security". The Journal of Defence Studies 43, no. 2 (2023): 384-397; Shamaila Amir and Nazia Abdul Rehman, "Space Technology and Its Military Application: Options for Pakistan", Journal of Advances Military Studies 15, no. 1 (2023) 136-152; Maksym Sokiran, et al. . "Space Information and Technologies in the Military Activity of Ukraine: Legal Aspect", Advanced Space Law 9 (2022): 66-80.

Changing Form of the Conflicts

Humankind has been and continues to be in a constant process of development. These developments played an important role in changing human relations, social order, tools and equipment, and similar issues. In the 21st century, space technologies have brought developments that have largely changed human life. Thanks to satellites in space, weather reports are created, location is determined, communication and transportation are facilitated, internet signals are improved, data transfer capacity is increased, and many other activities that affect every aspect of life are carried out. Space technologies affect politics, the economy, trade and social life, as well as the military. The defence industry is undergoing a major change by using these technologies. This change undoubtedly affects the form of conflicts.

Tools

The tools and methods used in conflicts have developed and changed within the framework of the inventions discovered by human beings. It is a paradox that as humans evolved and progressed, they became better at killing each other.[6] However, the primitive weapons that ancient people developed to protect themselves from environmental hazards turned into a necessary tool to protect settlements against rivals and to ensure the national interests of political structures in later years. Defence is seen as a need that shows the power of a state and increases its deterrence. The power of states is analysed by looking at the strengths and weaknesses of their defence. Military power alone is not enough to be but it is one of the factors that support the state's strong stance and is the most prominent.

The oldest war tools discovered are basic stone tools dating back 3.3 million years. It is known that sticks and stones were first used in conflicts. In later periods, spears and stone axes were developed. Spears are among the oldest hand-held weapons, dating back at least 500,000 years. Clubs, stone hammers, and short stone knives were also part of the early human arsenal. Following the Stone Age, with the development of metalworking, cutting tools emerged in the Bronze Age. The first metal swords were invented around 3300 BC,. in The first steel swords were developed in the Iron Age 1200 BC, which were longer, sharper and much more durable. Around 10,000 BC, humans added a new component to their weapon designs and developed the sling. Slings were great for

6 George, C. Stephen, "From Stone Tools to Guns: A Timeline of Ancient Weapons". Discover Magazine, 2023, https://www.discovermagazine.com/technology/from-stone-tools-to-guns-a-timeline-of-ancient-weapons (accessed October 12, 2024)

stunning or killing small, fast games, and were not bad at taking down human opponents. The bow and arrow, which dates back 64,000 years, was an inevitable advance in war weapons, and swords, spears, bows and the like were still widely used for decades to come.[7]

The most important invention that changed the history of conflict was gunpowder. With the discovery of gunpowder in the 14th century, firearms drew a line between the ancient and modern ages.[8] The discovery of firearms paved the way for the emergence of other equipment that played an important role in defence, such as tanks and rifles. With the increase in knowledge, integrated systems were created for the use of firearms on land, as well as in the air, sea and underwater. The discovery of gunpowder was an important turning point in the history of conflict.

The development of space technologies, similar to gunpowder, can be seen as a turning point in 21st century conflicts. While tools such as stones, sticks, and spears used in ancient times were tools that had to be used face to face with the enemy, the emergence of guns has increased the distance to the enemy. Space technologies, on the other hand, allow the enemy to be harmed even when they are miles away. Thanks to satellites, conflicting groups can detect the location of their enemies, collect information about the terrain, and hit targets by directing unmanned aerial vehicles. All these activities are carried out via space-based systems, and it is not necessary to be stationed in the conflict zone to carry out these activities.

Space-based conflict tools provide more accurate results compared to other conflict tools. Since moves are made based on satellite data, the probability of a direct target-oriented move is increased. In addition, for a conflict managed through space technologies, the effects of elements such as difficult terrain conditions, unfavourable weather conditions, and a large number of the enemy's army are minimized. Developing technologies allow conflicts to be conducted remotely and without confronting the enemy.

Actors

With the changing time, non-state actors have also started to come to the fore in terms of influencing international issues. Civil society organizations, corporations, various institutions, and certain individuals often exert greater influence than states in specific areas. This multi-actor structure, which characterizes the increasingly complex dynamics of international relations, also becomes evident in the context of conflicts. The involvement of diverse actors in conflict scenarios reflect the shifting

7 *Ibid.*
8 *Ibid.*

nature of power and influence, where non-state entities play a pivotal role alongside traditional state actors.

In the 21st century, we witness various actors in the leading roles in conflicts. The conveniences provided by technological developments provide all kinds of structures with the opportunity to create conflicts. Integration in the world has become stronger because of advanced information and communication technologies. Therefore, it has become easier for a state, a group or an individual to gather economic and military support. Hence, civil conflicts have become more common than wars between states.

Increasingly, conflicts involve not only state armies but also non-state armed groups, criminal gangs, drug traffickers and terrorists. Today, conflicts are becoming more complex and protracted.[9] In today's world, where people from all over the world can easily communicate with each other, it becomes easier for such groups to justify their causes and rally supporters. Non-state organizations and conflict groups are not just structures consisting of a certain ethnicity as they used to be. There are hundreds of people from different countries in the organizations and groups.[10] The proliferation of information and communication technologies is one of the most important reasons for this. Another reason is that states do not want to confront each other and get involved in a hot conflict. For this reason, non-state organizations are used to prevent confrontation from states, for which they receive support from various states.

Nowadays, it is possible to express that conflicts are caused by non-state entities rather than states. There has been a shift from conflicts between minimally disciplined state armies to the conflicts between relatively uneducated local groups that characterize recent conflicts.[11] The fact that the conflicting groups are non-state structures leads to uncertainty about the tone of the conflict and the uncertainty of what path will be followed for a solution.

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9 William R. Avis, "Current Trends in Violent Conflict". K4D Helpdesk Report (March 25, 2019).

10 Cenker K. Demir,. "Terörizm ve Terörizmle Mücadele", Güvenlik Yazıları Serisi, no. 26 (2019): 1-9.

11 The Women's Foreign Policy Group, The Changing Nature of Conflict New Dimensions New Players New Perspectives,(Washington DC: The Women's Foreign Policy Group, 2001).

Effects

According to Andrew Knighton, what ultimately proves the value of a weapon is its effect on its opponent.[12] When we look at the weapons that have emerged from the earliest times to the present day, we see that the tools of conflict that started with stones have evolved into unmanned aerial vehicles. States continue to develop in the defence industry to ensure their survival, protect their interests and show their power. The strength of the defence industry is measured by the degree of effectiveness of the military inventory.

In today's world, military inventory, such as the number of soldiers and the number of tanks and rifles, does not have significant effect on the power of an army as it had in the past. Rather, the extent to which military inventory is integrated with space-based systems is more prominent. Satellites, GPS technology, signal jammers, anti-satellite systems, and unmanned aerial vehicles play an important role in strengthening defence.

As the military inventory grows stronger and develops over time, its impact and damage naturally become greater. Unlike previous conflicts, the integrated operation of the defence industry with satellite systems has greater human losses. In past hot conflicts, the area where the war took place, and the combatants were more obvious. However, today, due to satellite systems, it has become common to detect places where civilians live and organize attacks. Targeted attacks cause many civilians to lose their lives. An example of this situation can be observed in the 2022 Russia-Ukraine war. From the outset of the war, the conflict has not been confined to traditional battlefronts but has extended into urban centres and civilian areas. This expansion of the conflict zone, facilitated by satellite systems, has significantly amplified its impact, as attacks on non-military targets have become more prevalent. This example clearly demonstrates how space technology has transformed the nature of modern warfare, leading to broader and more indiscriminate consequences, particularly in terms of civilian loss of life.

Secondly, the impact of the damage caused by contemporary conflicts is significantly greater. The enhanced precision of attacks facilitated by satellite systems and the increased effectiveness of technological defence mechanisms, result in more extensive environmental degradation. Unlike past conflicts where destruction was often confined to specific battle zones, modern warfare, guided by satellite systems, can lead to widespread ecological harm. For example, missile

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[12] Andrew Knighton, "Medieval Weapons That Maimed and Killed", History, 2023, https://www.history.com/news/medieval-weapons-knights-middle-ages (accessed October 24, 2024).

strikes, guided by satellite-based targeting and GPS technology, can cause immediate structural damage and long-term environmental consequences, such as soil contamination, water pollution, and ecosystem disruption. While all forms of conflict lead to destruction, the technological advancements in weaponry and satellite-enabled intelligence are significantly intensifying the scale and long-term ecological damage associated with modern warfare.

Thirdly, the conflicts that have occurred in the 21st century are innumerable because of uncertain and scattered nature of the conflict area, the diversity of conflicting groups, and the management of the conflict through space-based systems. Space-based systems enhance the communication and information-gathering capabilities of conflicting groups, enabling them to organize more effectively. Furthermore, these technologies may assist non-state actors in expanding their influence on local and global levels. Hence, ending the conflict is becoming more difficult. The diversity of the conflicts and the conditions for the parties to sit at the table and negotiate are becoming increasingly difficult. The Syrian conflict, which began in 2011, is a prime illustration of how 21st century conflicts have become increasingly intense. The war involves a wide array of conflicting groups, including the Syrian government, various opposition factions, and extremist organizations such as ISIS. The use of space-based technologies, including satellite surveillance and communication systems, has enabled all sides to more effectively target each other, complicating the dynamics of the conflict. The uncertain and scattered nature of the conflict areas, with shifting front lines and the involvement of multiple international actors, has made it difficult to establish control and reach a peaceful resolution.

Lastly, the psychology of fear has been significantly amplified through the media, a prominent feature of the information and communication technology age. In previous centuries, due to limited communication tools, people had access only to general or delayed information regarding conflicts. However, in the present day, the widespread availability of the internet and various media platforms has made it possible to access real-time information, including images of the conflict, its scale, its immediate effects, and developments as they unfold. This constant flow of information contributes to heightened anxiety and insecurity among the public.

Moreover, conflict groups can now utilize the internet to recruit and mobilize individuals, spreading their messages and gathering support through social media platforms such as Facebook, Twitter, and Telegram, as well as traditional mass communication tools like television and radio. This access to rapid communication channels amplifies the reach of conflict groups and makes individuals continuously vulnerable to threats, as they are constantly exposed to potentially distressing information. The

strategic use of fear through these platforms serves to manipulate public perception, provoke emotional reactions, and maintain a sense of urgency or vulnerability, which can influence public sentiment and participation in conflicts. Thus, the role of fear in modern conflicts is not only psychological but also a tool of influence and mobilization, exacerbating the complexity and uncontrollability of contemporary warfare.

Prospects of Space Technologies on the Conflicts

Space-based technologies are dual-use technologies that can be used in both peace time and conflict times. The dual-use technologies are generating fundamental transformations both in the way wealth and power is created, and wars are fought because technology diffusion is now virtually instantaneous and unstoppable.[13] While it has effects such as ensuring the flow of information between politicians, making many activities in daily life more functional, and facilitating the economy and trade; at the same time, it plays a role in strengthening the hands of the parties in times of conflict. It is important to note that space technologies offer very different and distant usage opportunities. This section analyses opportunities that space-based technologies enable in conflict times.

The First Gulf War was the first time that space-based technologies were recognized as an effective tool in conflict. The First Gulf War occurred in 1990 and is known as the first space war. Satellite images and telecommunications, which were part of Operation Desert Storm, made it possible for the first time to see how space technologies strengthened a state during war.[14] The first clear demonstration of the tangible benefits of space policies came during the Gulf War of 1990–1991, when the United States gained a strategic advantage—and ultimately emerged victorious—by utilizing reconnaissance and intelligence satellites.[15] The war in Afghanistan in 2001 was another indicator that satellites were indispensable.[16] Since the 1990s, space technologies have been a pillar of hot conflicts.

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13 Mohan Malik, "Technopolitics: How Technology Shapes Relations Among Nations", The Interface of Science, Technology & Security 12 (2012): 21-29.

14 W. Sharon Lang, "SMDC History: 25 Years Since First Space War", U.S. Army, 2016, https://www.army.mil/article/161173/smdc_history_25_years_since_first_space_war (accessed November 8, 2024).

15 George Friedman and Meredith Friedman, Savaşın Geleceği 21. Yüzyılda Güç, Teknoloji ve Amerikan Dünya Egemenliği, Translated by Enver Günsel, (İstanbul: Pegasus Yayıncılık, 2015).

16 Livio Pigoni, "Space: The New Frontier of Security Policy", CSS Analyses in Security Policy 171 (2015): 1-4.

After the First Gulf War, the states witnessed how important space-based technologies are effective in changing the direction of the conflict. This changing course of the war had a great impact on the world. Since then, the conventional perspective on the conflict has changed. Nowadays, it is more common to see conflicts and wars using space technologies. This can be seen in the war between Ukraine and Russia. Ukraine has gained the power to defend itself against Russian attacks due to satellite technologies.[17] Similarly, satellite technologies are used in the Israel and Palestine wars. Satellite technologies play a critical role in the states' ability to protect themselves from enemies.

In both the Russia-Ukraine war and the Israel-Palestine war, weaker groups, such as Ukraine and Palestine, have leveraged space-based technologies to gain strategic advantages despite their limited resources. In the case of Ukraine, the integration of satellite systems has played a significant role in enhancing communication and military coordination. For instance, the use of Starlink satellites provided by SpaceX enabled secure, real-time communication, helping Ukrainian forces maintain operational effectiveness.[18] Additionally, Ukraine has utilized satellite imagery and surveillance technologies to track Russian movements, identify key military targets, and make more informed strategic decisions.

Although Palestine has limited access to advanced space technologies, it still has managed to use available resources to enhance its communication and intelligence capabilities. Palestinian groups have relied on satellite communication to maintain contact with the outside world and coordinate efforts, especially during times when traditional infrastructure is damaged or unavailable. Moreover, while Palestine lacks the advnced satellite systems, it has utilized available satellite imagery and unmanned aerial vehicles to monitor Israeli military movements, identify potential targets, and gather intelligence in real-time. This access to satellite and communication technologies has allowed these weaker groups to maintain some degree of operational coordination and influence the conflict's dynamics, despite the power imbalance.

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17 Markus Holmgren, "The Role of Space Technologies in Power Politics Mitigating Strategic Dependencies Through Space Resilience", FIIA Briefing Paper, (June, 2023).

18 The Economist, "How Elon Musk's Satellites Have Saved Ukraine and Changed Warfare", 2023, https://www.economist.com/briefing/2023/01/05/how-elon-musks-satellites-have-saved-ukraine-and-changed-warfare?utm_medium=cpc.adword.pd&utm_source=google&ppccampaignID=18151738051&ppcadID=&utm_campaign=a.22brand_pmax&utm_content=conversion.direct-response.anonymous&gad_source=1&gclid=EAIaIQobChMIxsGV4MnhjAMVxIVoCR1MBDi4EAAYASAAEgLVGfD_BwE&gclsrc=aw.ds (accessed April 17, 2025).

Space-based technologies play effective role in strengthening the defence. Space technologies are also increasingly important in conflict.[19] Associate Professor Dr Bleddyn E. Bowen, who studies space policies, expresses the importance of space in terms of the defence sector with the following words: "Space is a strategically vital geography for any modern military-economic power. Force enhancement, network-centric warfare, precision-guided munitions, accurate navigation and treaty verification would be impossible without the help of satellite systems."[20] In case of any war or conflict, space technologies are needed to determine coordinates and provide data to the army. Satellite images are important for the decision-making process and situational awareness. Space systems represent an important power for the defence sector. Space technologies are seen as an advantage that strengthens the military operations.[21] Space power both guarantees and makes possible modern military power on Earth.[22]

Secondly, space-based technologies offer significant advantages and conveniences in obtaining intelligence. States first obtained intelligence by placing spies in foreign countries' government institutions and then by listening to telegraphs, radios and phones.[23] In the 21st century power struggle, information and communication technologies are an important source of power in terms of states obtaining intelligence, determining enemy coordination, aircraft producing accurate results, and developing early warning systems against threats. Information and communication technologies provide information exchange much faster than in the past. Thus, it becomes easier to obtain intelligence and for actors to shape their strategies according to these information and data.

The use of satellites in espionage activities dates back to the 20th century. The first spy satellites were introduced in the 1960s. These satellites have an important function in terms of observation, tracking and monitoring.[24] States collect intelligence, make observations, and most

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19 *Ibid.*

20 Bleddyn E. Bowen, "Cascading Crises: Orbital Debris and the Widening of Space Security", The International Journal of Space Politics & Policy 12, no. 1 (2014): 46-68.

21 Fahri Erenel and Doğan Erenel, "Yeni Harekât Alanı Olarak Uzay ve Uzay Komutanlığı". In 21. Yüzyılda Uzay Gücü ve Hava Hakimiyeti (pp. 51-74), edited by Ferdi Güçyetmez, (İstanbul: İdeal Kültür Yayınları, 2023).

22 Cem M. Oğultürk, "Uzayda Kollektif Savunma ve NATO'nun Yaklaşımı". In 21. Yüzyılda Uzay Gücü ve Hava Hakimiyeti (pp. 75-94), edited by Ferdi Güçyetmez, (İstanbul: İdeal Kültür Yayınları, 2023).

23 Friedman and Friedman, *op. cit.*

24 Erenel and Erenel, *op. cit.*

importantly, communicate through satellites.[25] Traditional intelligence methods have become outdated. Intelligence information obtained through modern technologies is easier to collect and more accurate. Although espionage activities are considered a prominent issue in conflict terms, such activities are ongoing regardless of peacetime and conflict time. In peacetime, states use and target space technologies for strategic advantage, and during conflict, states use space technologies for hybrid operations such as cyber sabotage and espionage.[26]

Third, it is important to mention the necessity of space technologies to ensure security in outer space and conflicts on Earth. Space technologies are an effective tool and a unique component in conflicts on Earth. However, outer space should not be forgotten. Space is a geographical area like land, sea and air and its security is in question. It is not possible to talk about a concrete conflict between actors in space yet. Nonetheless, the development of Anti-Satellite Weapon (ASAT) and the testing of these weapons did not come out of nowhere. The USA has been conducting ASAT tests since the 1950s, Russia since the 1960s, and China since the 2000s. In 2007, China shot down one of its weather satellites, opening the door to the rebirth of ASAT weapons.[27] Following this move by China, the US destroyed a decommissioned satellite containing toxic gases with an ASAT test to remove it from orbit in 2008.[28] There has been no conflict in outer space so far, but such moves by states forces them to take precautions against every possibility. Actors must be more careful in order to ensure the security of satellites in outer space because any damage, harm or destruction of satellites has the potential to cause problems for activities on Earth.

Fourth, actors possessing space-based technologies create deterrence. Space power is an instrument that states want to have to create deterrence. Space technologies have dual-use as part of a peaceful environment and as part of a conflict. Space power, which creates deterrence, is desired by many states.[29] At this point, it is possible to compare space power to economic power. Space power is a source of

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25 Éléonore Daxhelet,, "The Intersection between Outer-Space Security and Cybersecurity". FINABEL – The European Army Interoperability Centre, 2023, https://finabel.org/the-intersection-between-outer-space-security-and-cybersecurity/ (accessed November 15, 2024).

26 Holmgren, *op. cit.*

27 Pigoni, *op. cit.*

28 Cassandra Steer, Why Outer Space Matters for National and International Security, (Filadelfia: University of Pennsylvania Carey Law School, 2020).

29 Deganit Paikowsky, "Uzay Politikalarında Devam Eden Trendler". In Uzay Güvenliği (pp. 179-190), edited by Sait Yılmaz, (İstanbul: Milenyum Yayınları, 2013).

motivation for a more stable progress in relations during peacetime and a trump card in the hands of states in conflict times, in order to prevent conflict from starting, to stop it if it has started, or to strengthen defence during conflict. Space vehicles are important in terms of creating deterrence. The art of deterrence also begins with four questions: Who do you want to deter? What actions do you want to deter? What tools do you have? How will you use these tools?[30] The first two of these questions are issues that vary from actor to actor. However, the subject of tools draws attention in terms of space deterrence. Through satellites, actors strengthen land, air, sea navies and cyberspace activities on Earth and close their gaps. In addition, in outer space, the destruction of satellites via ASAT and damage to other satellites are among the situations that will put actors in a difficult position. It can be stated that space technologies have a deterrent effect both on Earth and in space.

Lastly, space-based technologies make the security of critical infrastructures vulnerable. As is known in the 21st century, all systems are gaining functionality with space-based technologies. Every day on Earth, systems in space make the ordinary possible. The satellite constellation that makes up the global positioning system enables precise navigation. Farmers use space systems to manage crops. The global financial system relies on space systems for precise timing of transactions.[31] It is quite easy to multiply such examples. This situation makes critical infrastructures more fragile and sensitive. Especially in times of calamities, the first thing that comes to mind is to organize attacks on critical infrastructures. In this way, the other party is put in a difficult position and the natural flow is interrupted. Russia carried out cyber-attacks on important websites in Estonia in 2007 and in Georgia in 2008, causing the operations of many sectors in the country to be disrupted.[32] Hence, it can be assumed that space-based applications are highly integrated and critical infrastructures are always under threat due to this integration.

There is a debate about whether space assets should also be considered critical infrastructure due to the integration of space systems and critical infrastructures, and the fact that an attack on space systems would endanger critical infrastructures. The increasing importance of

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30 Alex Schiller, "Space's Role in Deterring Conflict". Pacific Forum, 2023, https://pacforum.org/publications/yl-blog-54-spaces-role-in-deterring-conflict/ (accessed November 15, 2024).

31 Christian Vasquez, "Space is essential for infrastructure. Why isn't it considered critical?", Cyberscoop 2024, https://cyberscoop.com/space-critical-infrastructure/ (accessed November 13, 2024).

32 Nezir Akyeşilmen, Disiplinlerarası Bir Yaklaşımla Siber Politika & Güvenlik, (Ankara: Orion Kitabevi, 2018).

space systems for daily economic activities and the rapidly expanding space economy have led many experts to argue that they should be designated as critical infrastructure to better protect these systems. Designating space assets as critical infrastructure would also draw a line that hostile actors should not cross at a time when cyberattacks on space systems and GPS jamming are becoming increasingly common.[33] Ensuring the security of space assets and increasing security measures would naturally be a parallel move to the security of other critical infrastructures. When the effects of space technologies on today's conflicts are observed, it is clearly seen that it is now difficult to gain supremacy in conflicts without using these technologies. Actors should transform by observing the cyclical changes. No matter how well equipped they are in conventional elements, a navy that is not integrated with space-based technologies will be inadequate. While some actors are aware of this, others are not, and some lack the economic resources, technological capabilities and skilled personnel needed to integrate with these technologies. However, at the end of the day, actors who keep up with the times will come to the fore in the power struggle.

Conclusion

Since humans have always been curious and observant, they have not been satisfied with what they have and have been in a constant state of research. Humans keep on discovering new things, and these discoveries have paved the way for the change, development and transformation of life. In the 21st century, discoveries in information and communication technologies have integrated human life with technology more than before. Humankind's relationship to space is currently being rewritten with remarkable speed.[34] It is possible to say that nowadays space technologies are more effective and efficient.

During the Cold War, the gateway to space was partially opened as the rivalry between the USA and the USSR extended beyond earth and into outer space. When comparing the Cold War and the post-Cold War periods, it can be seen that the new security paradigms have altered concurrently with the content of the idea of space security.[35] During the Cold War, sending vehicles into space and carrying out manned missions were indicators of success, but today such activities have been surpassed. Hundreds of satellites are sent into space every year, the Moon and other planets are explored with rovers, and various samples are brought from

33 Vasquez, *op. cit.*

34 Holmgren, *op. cit.*

35 Hasret Çomak and Burak Ş. Şeker, Space Environment and International Politics, (London: Transnational Press London, 2024).

space to Earth. In addition, topics such as space tourism, space mining, space trade, and life in space are frequently discussed.

Space-based technologies are important in peacetime and conflict times. When the importance of space technologies is questioned, it is seen that it is impossible to strengthen one's hand in conflicts without these technologies. There are many statements supporting this claim from the authorities in the three great space powers, the USA, China and Russia. The Chinese military PLA has stated that its "focus areas" include modern command and control communications systems, cyber, space and long-range ballistic and cruise missiles for deep strikes, stealth platforms, and improved air defence.[36] According to Russians, the character of wars for the next 30 years will be shaped by weapons activated by satellite targeting and navigation.[37] Furthermore, US Colonel Harry Sachaklian made a statement saying, "Who rules space rules the world."[38]

Major powers are increasingly investing in developing ground-to-space capabilities. The United States, China, India, and Russia have demonstrated their ability to use anti-satellite missiles. During conflict, states also use space technologies for hybrid operations such as cyber sabotage and espionage.[39] Since the 1990s, the entire world has witnessed the impact of space technologies in directing conflicts. In an international system where power struggles have existed and will continue to exist, actors must develop space technologies, follow innovations in this field, and train people to protect their national interests.

[36] Malik, *op. cit.*
[37] Erenel and Erenel, *op. cit.*
[38] Oğultürk, *op. cit.*
[39] Holmgren, *op. cit.*

ARTIFICIAL INTELLIGENCE AND ITS IMPACT ON MILITARY DECISION-MAKING IN FUTURE WARFARE

Maheen Shafeeq*

Abstract

This paper explores AI's influence on military decision-making at the tactical, operational, and strategic levels. At the tactical level, AI enhances speed and precision, providing real-time data analysis and decision support in high-risk, time-sensitive situations. At the strategic level, where decisions carry broader geopolitical consequences, human oversight remains dominant due to the complexity and potential for inadvertent escalation. Humans and machines collaborate at the operational level, with machines having more autonomy at the tactical level and humans dominating at the strategic level. The paper concludes that military planners must carefully evaluate the appropriate balance of AI autonomy and human control across these levels. It also cautions against the risks of an emerging AI arms race and the dangers posed by asymmetric AI development, where uneven technological capabilities among nations could lead to instability and unpredictable escalation.

Keywords: *AI, Military Decision-making, Tactical, Operational, Strategic, Man-machine, Accuracy.*

Introduction

For centuries, philosophers, psychologists, economists, strategists, mathematicians, and social scientists have studied the art of decision-making. They have proposed various methods for decision-making, such as cost and benefit analysis, pros and cons, maximin and maximax methods, conjunctive and disjunctive methods, lexicographic

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method, game theory, theory of mind, utility maximization theory, theory of choice, and so on.[1]

In warfare, military decision-making is of utmost importance, and the notion has been examined and emphasized on since recorded history. Sun Tzu, in his book "Art of War", highlighted the importance of decision-making by stating that the quality of decision-making determines victory.[2] In 1954, Ward Edward, reviewing the theory of decision-making, developed two streams. The first stream was termed as the 'Theory of Riskless Choices,' which intended to maximize utility, and the second stream was termed the 'Theory of Risky Choices,' intended to maximize expected utility.[3] The Theory of Riskless Choices dealt with decision-making under certain circumstances, while the Theory of Risky Choices considered decision making under uncertain circumstances. Herbert A pondered these theories. Simon who heavily criticized the Maximize Utility Theory to suggest that decision-making was rather based on bounded rationality,[4] which was meant to achieve a satisfying objective.[5] The concept of bounded rationality was reevaluated in 2001 by Gred Gigerenzer and Reinhard Selten. Gigerenzer and Selten highlighted that common denominators in decision-making were limited time and knowledge of domains is uncertain in changing world. These factors, they believed, could have a negative impact on bounded rationality and satisfaction in decision-making in future decision making.

Future warfare would be heavily dominated by emerging technologies such as artificial intelligence (AI), machine learning, generative AI, cyber, space, quantum, unmanned systems, etc. This might impact bounded rational military decision-making due to compressed, limited time and novel knowledge, resulting in a high level of uncertainty.

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1 A. R. K. Sasikumar and S. V. A. V. Prasad, "Optimal Deployment of Decoys for Ballistic Missile Defence," *Applied Mathematical Modelling* 34, no. 11 (November 2010): 3251–63, https://doi.org/10.1016/j.apm.2009.11.016; V. Zhukovin, N. Chkhikvadze, Z. Alimbarashvili, "Decision Making: Lexicographical Procedure," Cornell University, March 2, 2010, https://arxiv.org/abs/1003.0569.

2 Lionel Giles, *Sun Tzu: The Art of War*, (London: Oxford University Press, 1994).

3 Ward Edwards, "The Theory of Decision Making," *Psychological Bulletin* 51, no. 4 (1954): 380.

4 Herbert A. Simon, "Rational Decision Making in Business Organizations," *The American Economic Review* 69, no. 4 (1979): 493-513.

5 Gerd Gigerenzer and Reinhard Selten, eds. *Bounded Rationality: The Adaptive Toolbox*, (Cambridge: MIT Press, 2002).

This would ultimately blur the typical lines on the battleground.[6] Jean B. McGrew, in his research, described that the decision-making in future warfare would be under a short time frame, shattering stress and disorientation. He alluded to this concept as 'Future Shock'.[7] The concept was further elaborated by Major Wilson A. Shoffner who stated when too much change would hit too fast, it would become difficult for the military decision-makers to absorb information due to which they could either show signs of deteriorated or disorientated decision-making capability. Owing to the growing uncertainty in a war-like situation, war strategists are depending on technology such as AI to develop better comprehension and awareness of the battleground. AI would be able to extend enriching decision-making support to military decision-makers.[8]

While a few analysts on emerging technologies believe that the introduction of AI on the battleground would have minimal impact, many have shown an inclination towards the belief that emerging technologies, especially AI, would have an evolutionary impact.[9] A Congressional Research Service report studied the revolutionary impact of AI to reveal that many experts believe that AI would cause a seismic shift and fundamentally transform war.[10] James Johnson particularly studied the impact of AI on strategic decision-making to state that AI-enabled decision-making tools would substitute human empathy, critical thinking, and intuition in strategic thinking, which could be fundamentally destabilizing.[11] The Congressional Research Service Report also analysed the evolutionary impact of AI on warfare and revealed that some experts

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6 Orlando D. Critzer, *21st Century Strategy Needs Sun Tzu*, Army War College, (Carlisle Barracks: PA, Strategy Research Paper) 2012, https://apps.dtic.mil/sti/pdfs/ADA561113.pdf.

7 Jean B. McGrew, "Future Shock," *The Bulletin of the National Association of Secondary School Principals* 54, no. 349 (1970): 123-129, accessed on 11 March 2022, https://journals.sagepub.com/doi/abs/10.1177/019263657005434912?journalCode=bulc.

8 Gloria Phillips-Wren, and Lakhmi Jain, "Artificial intelligence for decision making," *In International Conference on Knowledge-Based and Intelligent Information and Engineering Systems*, Berlin, Heidelberg, 2006, accessed on 14 March 2022, https://link.springer.com/chapter/10.1007/11893004_69.

9 Daniel S. Hoadley and Kelley M. Sayler, *Artificial Intelligence and National Security*, report (Washington, D.C.: Congressional Research Service, 2020), https://sgp.fas.org/crs/natsec/R45178.pdf.

10 Daniel S. Hoadley and Kelley M. Sayler, *Artificial Intelligence and National Security*.

11 James Johnson, "Delegating Strategic Decision-Making to Machines: Dr. Strangelove Redux?," *Journal of Strategic Studies* (2020): 1-39, https://www.tandfonline.com/doi/full/10.1080/01402390.2020.1759038.

believe that AI would dramatically improve military effectiveness and combat potential. Presently, the debate on the evolutionary or revolutionary impact of AI on warfare, and especially on decision-making is ongoing, and the actual potential of AI remains to be seen and understood.[12] However, analyzing the sixth revolution in military affairs that involves organizational restructuring and doctrinal innovation that would be required to adapt to AI, Micheal Raska expressed that incorporating AI technologies would disproportionately impact countries and regions due to geo-strategic competition.[13]

The changing geostrategic environment altered how militaries are procuring AI. The U.S. military, for instance, has integrated commercial off-the-shelf and dual-use AI technology in systems such as drones and unmanned aerial vehicles.[14] This is because the commercial research and development is progressing faster than in the military. The cost per unit is low, and there is a large market for such AI technologies. Similarly, the People's Liberation Army (PLA) is also concerned about the ongoing strategic competition. Due to this, it has shifted from 'informatised' warfare to 'intelligentised' warfare that includes the development of innovative techniques in AI and machine learning to transform the overall operational capability of PLA including, human-machine integration, weapons, and ways of combat.[15] Russia, on the other hand, also stressed dual-use technology like the U.S. and attempted to make a breakthrough in AI through 'radical innovation centres or 'technoparks'.[16] Israel Defense Forces experienced the strategic effect of AI, and like the U.S., Israeli Defense Forces also relied on the dual-use nature of AI from the civilian sector.[17] Indian defence sector entered the AI strategic competition comparatively late. It was focused on developing AI capabilities for

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12 "Artificial Intelligence and NC3: P5 Perspectives," VCDNP, April 3, 2024, https://vcdnp.org/ai-and-nc3/

13 Michael Raska, "The sixth RMA wave: Disruption in military affairs?," *Journal of strategic studies* 44, no. 4 (2021): 456-479.

14 Stanley-Lockman, Zoe. "From closed to open systems: How the US military services pursue innovation." Journal of Strategic Studies 44, no. 4 (2021): 480-514.

15 Elsa B. Kania, "Artificial intelligence in China's Revolution in Military Affairs," *Journal of Strategic Studies* 44, no. 4 (2021): 515-542.

16 Katarzyna Zysk, "Defence Innovation and the 4th Industrial Revolution in Russia," *Journal of Strategic Studies* 44, no. 4 (2021): 543-571.

17 Yoram Evron, "4IR Technologies in the Israel Defence Forces: Blurring Traditional Boundaries," *Journal of Strategic Studies* 44, no. 4 (2021): 572-593.

defence through a capacity-building model.[18] This showed that militaries around the world have progressed to induce AI into their operations in order to enhance their tactical, operational, and strategic capability and effectiveness which could have a significant impact on strategic competition as mentioned in the previous paragraph.

To club the above-stated debate, the introduction of AI and machine learning to the battleground and decision-making certainly marks a turning point in warfare, regardless of its accessibility.[19] However, many analysts were sceptical that war would be relevant in future times, given the high stakes it could inflict. To address this query, experts on state behaviour during warfare, conflict and peacetime, like John Mearsheimer and Lawrence Freedman, negated the theory that war was declining and becoming irrelevant; instead, they believed that war would stay relevant in the future. In his book 'The Future of War,' Lawrence Freedman built arguments that war would have a future. He stopped short of predicting what future warfare might look like, but he stated with certainty that technologies, such as AI, would likely play a role in future combats.[20] The above discussion attempted to highlight two aspects. Firstly, military decision-making has evolved over time, and secondly, AI would have a prominent role on the battlefield. This paper further addresses the research gap of what future warfare dependent on AI would look like. The research evaluates the introduction of AI on the battlefield by analysing the impact of AI on the speed and accuracy of military decision-making. It also analyses the man-machine teaming for decision-making. It then delves into the risks of introducing AI into military decision-making, and lastly puts forth recommendations.

The Character of Warfare and Military Decision-Making

Emerging technologies have introduced an evident shift in the character of warfare.[21] Due to this shift, it would be necessary that military decision-making processes also evolve to keep pace with technological

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18 Ambuj Sahu, "Artificial Intelligence in military operations: Where does India stand?," *Observer Research Foundation,* 2019.

19 Greg Allen, and Taniel Chan, Artificial Intelligence and National Security, (Cambridge, MA: Belfer Center for Science and International Affairs, 2017).

20 Lawrence Freedman, *The Future of War: A History*, (New York: NY: Public Affairs, 2017).

21 Otto Kreisher, "Emerging Tech Will Change the Character of War, and the US Must be Ready, Milley Says," *Sea Power Official Publication of Navy League of the United States*, 2021, https://seapowermagazine.org/emerging-tech-will-change-the-character-of-war-and-the-us-must-be-ready-milley-says/

development. Emerging technologies, such as AI, cyber, nanotechnology, space, quantum, etc., have added to the complexities and uncertainty on the battlefield that would need to be considered during the decision-making process from tactical, operational and strategic levels in future warfare. As discussed by Karel and Adelbert in their research, the analytical decision-making approaches of present times might give human decision-makers a false sense of covering the entire spectrum of the battlefield.[22] This false sense could be due to negligence or unavailability of information which may create a wrong interpretation of the battlefield, and lead to incorrect decision-making. In addition, the decision-making process has been consuming for humans, which dramatically complicates the process and limits the number and diversity of options to explore. They discussed that classical military decision-making demands time, which is not suitable for modern warfare. This is because with the emerging and future battlefield technologies, the time from taking a decision and executing an action would shrink while the quantum of available data for decision-making would rise. Therefore, to provide a timely response to the changing character of warfare, it would be important to look into why AI could be a valuable asset for decision-making.

AI-Based Data Sorting for Decision Making

AI could be a useful asset on the battleground as it improves situational awareness. The three broad categories employed for improving situational awareness are;

- Data Extraction: AI algorithms are useful assets in extracting an abundance of data from various streams on the battleground such as from land, sea, air, space, and cyber. For the purpose of data extraction, three methods are used. Firstly, the user-centric data extraction gathers the data of the solider.[23] For instance, at field level, the geo-location of the solider, terrain, distance from the enemy or home base and so on. Secondly, the network-centric data extractions gather data that is in transit or flowing within a

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22 Karel van den Bosch, and Adelbert Bronkhorst, "Human-AI cooperation to benefit military decision making," NATO, 2018, https://www.karelvandenbosch.nl/documents/2018_Bosch_etal_NATO-IST160_Human-AI_Cooperation_in_Military_Decision_Making.pdf.

23 Maxim Bakaev, and Tatiana Avdeenko, "Data Extraction for Decision-Support Systems: Application in Labour Market Monitoring and Analysis," *International Journal of e-Education, e-Business, e-Management and e-Learning 4,* no. 1 (2014). http://www.ijeeee.org/Papers/295-A0076.pdf.

network through sensors.[24] Such data could be helpful for situational awareness at the operational and strategic levels. Thirdly, domain-centric data extraction collects information from physical assets and cognitive data from multiple domains.[25] This type of data extraction gathers alphanumeric and behavioural data. The purpose of data extraction is to sense patterns in large amounts of data and aid in processing, segmentation, and segregation of data, such as identifying enemy soldiers, and the type of ammunition, as well as identifying anomalies in the data stream.[26]

- Data Description: The data extracted from various sources is in raw and unclassified form. To make an informed decision, this data needs to be described in a manner that generates either the latest or the real-time picture of the operational environment. Data description for that purpose finds human-interpretable patterns, correlations, and associations.[27] Within the data description, data is sorted through two methods, first by segmentation and change, and second by deviation detection.[28] The purpose of a data description is to develop a situational understanding of the current operational environment in order to make military decisions. Data description automatically builds models of available information, human combatants and physical terrain by describing all relevant entities, their relationship, and unseen attributes such as goals and ambitions.[29]
- Data Prediction: Data prediction is the most critical factor as it aids military decision makers in planning their next moves. Data

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24 Maxim Bakaev, and Tatiana Avdeenko, "Data Extraction for Decision-Support Systems: Application in Labour Market Monitoring and Analysis."

25 Gen David G. Perkins, "Multi-Domain Battle," *Military Review July-August,* 2017, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview_20170831_PERKINS_Multi-domain_Battle.pdf.

26 Philip Kerbusch, Bas Keijser, and Selmar Smit, "Roles of AI and Simulation for Military Decision Making," *In STO Meeting Proceedings MP-IST-160*, 2018.

27 Madhuri Agrawal, Gajendra Singh, and Ravindra Kumar Gupta, "Predictive Data Mining For Highly Imbalanced Classification," *International Journal of Emerging Technology and advanced Engineering* 2, no. 12 (2012): 139-143, https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.414.2260&rep=rep1&type=pdf.

28 Madhuri Agrawal, Gajendra Singh, and Ravindra Kumar Gupta, "Predictive Data Mining For Highly Imbalanced Classification."

29 Philip Kerbusch, Bas Keijser, and Selmar Smit, "Roles of AI and Simulation for Military Decision Making," *In STO Meeting Proceedings MP-IST-160*, 2018.

prediction constructs one or more sets of data models by analyzing the described data in order to predict the behaviour of available data sets.[30] The descriptive and predictive data can be used interchangeably as data predictive models are also in the form of descriptive, human-interpretable and understandable, while descriptive models of data can also be used to make predictions.[31] Al technologies used for data prediction assist in generating future decisions and courses of action at tactical, operational and strategic levels such as the suggestion of time and location to shoot a missile to inflict the most damage. Nevertheless, uncertainty remains an inherent factor and cannot be ignored. For instance, the knowledge and understanding relevant to one operational environment might no longer be valid after a certain time.[32] Therefore, in order to make informed decisions, better knowledge and understanding of the battlefield can result in acurate predictions. Similarly, a larger amount of relevant data can yield better and more informed decisions.

Impact of AI on Military Decision Making

John Boyd's OODA loop (observe-orient-decide-act) is prominent in military decision-making processes.[33] The Department of Defense released a cycle similar to the OODA loop that involved AI in future decision-making.[34] The decision cycle laid out three functions of AI in decision making which are; 'sense', 'make sense', and 'act'. The function of 'sense' would be for the AI sensors in friendly, adversary, and neutral domains to discover, collect, correlate, aggregate, process and exploit data. While the 'make sense' function would be responsible for analyzing information for understanding and predicting. This function would

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30 Madhuri Agrawal, Gajendra Singh, and Ravindra Kumar Gupta, "Predictive Data Mining For Highly Imbalanced Classification," *International Journal of Emerging Technology and advanced Engineering* 2, no. 12 (2012): 139-143. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.414.2260&rep=rep1&type=pdf.

31 Madhuri Agrawal, Gajendra Singh, and Ravindra Kumar Gupta, "Predictive Data Mining For Highly Imbalanced Classification."

32 Philip Kerbusch, Bas Keijser, and Selmar Smit, "Roles of AI and Simulation for Military Decision Making," In *STO Meeting Proceedings MP-IST-160*, 2018.

33 Scott E. McIntosh, "The Wingman-Philosopher Of Mig Alley: John Boyd and The OODA Loop," *Air Power History* 58, no. 4 (2011): 24-33. https://www.jstor.org/stable/26276108.

34 Department of Defense, *Summary of Joint All-Domain Command and Control (JADC2) Strategy*, report (Washington, D.C.: Department of Defense, 2022). https://media.defense.gov/2022/Mar/17/2002958406/-1/-1/1/.

transform data into knowledge. Lastly, the 'act' combines cognitive and technical decision-making to take an action.[35] This model showed the role of AI in the decision-making of future warfare, and how advanced militaries around the world could depend on AI-aided decision-making processes. It also highlighted how AI can assist militaries in understanding and predicting the decision cycle of adversaries by analysing their actions. As discussed earlier, such dependence on AI would increase during constrained environments or when the human cogitative ability is overwhelmed with information to process. Under such circumstances, AI would significantly impact the speed, accuracy, and man-machine team for military decision-making at the tactical, operational, and strategic levels. These aspects are looked into in detail subsequently.

Speed Due to emerging and future warfare technologies, the character of war has changed from long and extensive to quick, short, intense, destructive, shock-and-awe situation. This has compressed the reaction time drastically, requiring military decision-makers at tactical, operational, and strategic levels to speed up the process of decision-making in order to ensure victory or survival.

At the tactical level, the decision-making time is shortest as combatants on the ground are required to respond quickly. For instance, in case of a first shot or a tactical missile launched, field units would require a quick response to neutralise the attack. AI, in this matter, could be useful to speed up the decision-making process to respond. Firstly, by providing information on identifying the type of approaching threat. Secondly, AI could assist in analyzing the offensive environment, and suggest the appropriate response based on its predictive capabilities. This information and options could significantly speed up the decision-making process at the tactical level.

At the operational level, the decision-making time is relatively more than at the tactical level. This allows more time to analyse the situation in order to make an informed decision. At the operational level, the decision-making programs generate abundant information from various sources and/or networks. Air Force Academy in Romania studied decision making in a networked force and identified that as militaries are evolving into a networked force, decision-makers would need to select and filter information promptly. For this purpose, AI permits a greater range of options with in-depth analysis quickly at the operational level.[36]

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35 Department of Defense, *Summary of Joint All-Domain Command and Control (JADC2) Strategy.*

36 Xiren Zhou, Siqi Wang, Ruisheng Diao, Desong Bian, Jiahui Duan, and Di Shi, "Rethink AI-based Power Grid Control: Diving into Algorithm Design," arXiv:2012.13026, (2020).

The strategic level of military decision-making requires time and access to a large amount of information from all domains, including air, sea, land, space, and cyber, to make rational decisions. In such a scenario, AI is essential for decision-making as it can quickly sort and analyse the data to aid in making informed decisions. [37] In the future, the decision-makers at the strategic level will rely on AI to process and understand the vast amount of information, as it might be beyond human capabilities. Without the use of AI, traditional decision-making methods may not be efficient or effective in a contested environment, and could lead to delays or incorrect decisions. Therefore, incorporating AI in military decision-making could improve decision-making.

Accuracy The speed of future warfare would require speed in the decision-making process; however, the speed of decision-making does not ensure the accuracy of decisions. With the future speed and lethality of war, the room for error and miscalculation would be significantly reduced. For this reason, military decision-making would require accuracy to ensure that the objectives of the military decisions are met. Accuracy could be increased with the assistance of AI as AI would be able to sort, filter, and sequence data from repetitive information coming from the battleground as well as detect anomalies.[38] In future warfare, emerging technologies, such as drones and unmanned vehicles that depend on sensors and AI-decision making, will surround every angle of the battlefield. The accuracy of their actions would be increased due to AI's sorting and assessment at the tactical, operational, and strategic levels.[39]

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37 David K. Spencer, Stephen Duncan, and Adam Taliaferro, "Operationalizing Artificial Intelligence for Multi-Domain Operations: A First Look," *In Artificial Intelligence and Machine Learning for Multi-Domain Operations Applications Proceedings* 11006, p. 1100602, International Society for Optics and Photonics, 2019. https://www.spiedigitallibrary.org/conference-proceedings-of-spie/11006/2524227/Operationalizing-artificial-intelligence-for-multi-.

38 Wiphada Wettayaprasit, Nasith Laosen, and Salinla Chevakidagarn, "Data Filtering Technique for Neural Networks Forecasting," *In Proceedings of the 7th WSEAS International Conference on Simulation, Modelling and Optimization*, pp. 225-230, World Scientific and Engineering Academy and Society (WSEAS), 2007. https://citeseerx.ist.psu.edu/viewdoc/

39 Michael C. Horowitz, "When Speed Kills: Lethal Autonomous Weapon Systems, Deterrence and Stability," *Journal of Strategic Studies* 42, no. 6 (2019): 764-788. https://www.tandfonline.com/doi/abs/10.1080/; Nancy Jones-Bonbrest, "Artificial Intelligence improves Soldiers' Electronic Warfare user Interface," *United States Army,* 2019. https://www.army.mil/article/218705/.

At the tactical level, the room for error and miscalculation is inevitable compared to the operational and strategic levels. However, at this stage, the life of a pilot or solidier is at risk, which makes the accuracy of the decision an important factor. AI, at this level, can support the accuracy of decisions by providing accurate information regarding the enemy, for instance, the position of the enemy, coordinating fires and maneuvering options via AI-driven systems.[40] AI could also assist in deciding when a soldier's life is under threat, and when it must act as a loyal wingman and take over the dangerous and tedious tasks that risk the lives of human soldiers/pilots.[41] Additionally, during aerial combat, the AI algorithms could accurately sort the data to identify and help the pilot decide which threat neutralization needs to be prioritized to save the pilot's life. Using AI, the pilot could identify with accuracy which signals are insignificant and by eliminating those signals, a clear picture for decision-making becomes available.[42]

At the operational level, AI could assist in making an informed decision, which would ultimately improve the accuracy of the operation. Accuracy is important at an operational level, as there is little room for error and miscalculation. Accuracy with AI could be ensured as it would be based on concrete information from various sensors, networks, and domains rather than abstract assumptions based on experience. Additionally, AI could be helpful in making an accurate decision as it would provide an improved understanding and a complete and real-time picture of the enemy forces and terrain. AI would gather, filter, and select information regarding the friendly and enemy forces, assets, and their

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40 Kareem Ayoub and Kenneth Payne, "Strategy in the Age of Artificial Intelligence," *Journal of Strategic Studies* 39, no. 5-6 (2016): 793-819, https://www.tandfonline.com/doi/full/10.1080/.

41 Kerim Goztepe, "New Directions in Military and Security Studies: Artificial Intelligence and Military Decision-Making Process," *International Journal of Information Security Science* 4, no. 2 (2015): 69-80, http://ijiss.org/ijiss/index.php/ijiss/article/view/155.

42 Nancy Jones-Bonbrest, "Artificial Intelligence improves Soldiers' electronic warfare user interface," US Army, 2019, https://www.army.mil/article/218705/artificial_intelligence_improves_soldiers_electronic_warfare_user_interface.

capabilities.[43] Such vast information would increase the analysis ability and ultimately improve the accuracy of decisions.[44]

At the strategic level, there is little room for error and miscalculation; therefore, the highest level of decision-making accuracy would be required. For this purpose, AI-enabled command and control systems would likely avoid many shortcomings of cogitative strategic decision-making capabilities by analyzing vast amounts of data, recognizing patterns that could be missed by human decision-makers, and challenging assumptions.[45] These capabilities could especially be useful in the fog of war as well as in high-risk and reduced response-time scenarios. Additionally, decision-making at the strategic level could become more accurate with AI as error-free data would reach the decision-makers. With the help of AI, accurate data would be available in real time from various domains. This could be helpful for military decision-makers to plan a course of action for the present as well as predict future national security threats.[46]

Man and Machine Teaming: With AI, man and machine teaming would shift from one-way messaging to two-way messaging. This would form an actual teaming in systems such as Battle Management Systems with the capability to exchange information and ideas to make informed decisions. Under man and machine teaming, AI would become a partner on the battlefield. Research conducted at Florida Institute for Human and Machine Cognition studied man and machine teaming to coin the term co-active, which is meant to convey the reciprocal and mutually constraining nature of actions that are conditioned by coordination.[47] The research

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43 Emma Schuster, *When Something Has to Give: The Intersection of Artificial Intelligence, Military Decision-Making and International Humanitarian Law*, Master's Thesis (Lund, Sweden: Lund University, 2018), https://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=8955234&fileOId=8955235.

44 Emma Schuster, *When Something Has to Give: The Intersection of Artificial Intelligence, Military Decision-Making and International Humanitarian Law.*

45 Kareem Ayoub and Kenneth Payne, "Strategy in the Age of Artificial Intelligence," *Journal of Strategic Studies* 39, no. 5-6 (2016): 793-819, https://www.tandfonline.com/doi/full/10.1080/.

46 James Johnson, "Artificial Intelligence & Future Warfare: Implications for International Security," *Defense & Security Analysis* 35, no. 2 (2019): 147-169. https://lup.lub.lu.se/student-papers/search/publication/8955234

47 Matthew Johnson, Jeffrey M. Bradshaw, and Paul J. Feltovich, "Tomorrow's Human–Machine Design Tools: From Levels of Automation to Interdependencies," *Journal of Cognitive Engineering and Decision Making* 12, no. 1 (2018): 77-82, https://journals.sagepub.com/doi/abs/10.1177/1555343417736462.

further explained this relation as playing a sheet of music in a duet. Similarly, on the battleground, the man and machine team, which could also be referred to as the man and AI decision-making team, would have a varying degree of interdependent relationships in order to make informed decisions.

At the tactical level, AI would be able to detect visual perception, perform speech and facial recognition tasks, and make semi- or complete-autonomous decisions during combat.[48] At this level, the machine can be given more decision-making authority as the speed of combat is fast, which requires fast reactions. In the future, decisions could be taken by the machine independent of human supervision, while at present, there are only a few militaries that have developed and deployed complete autonomous decision-making[49] systems, such as the United Kingdom, United States, Russia, South Korea, Israel, and China.[50]

At an operational level, humans and AI could act as wingmen to support decision making in future operations. The two could distribute decision-making tasks, especially under a constrained environment when the cognitive state of a human is stressed and congested.[51] This distribution would also be useful to interact with multiple threats at the same time.[52] Similarly, under normal conditions, human could solely take over the decision-making task with support and assistance from AI. The human and AI team would strengthen their understanding of each other and develop common grounds for decision-making by harvesting the feedback and information gathered from their interaction.[53]

At the strategic level, the man and machine team would be considered effective, however, it could become potentially dangerous if

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48 James Johnson, "Artificial Intelligence & Future Warfare: Implications for International Security," *Defense & Security Analysis* 35, no. 2 (2019): 147-169. https://lup.lub.lu.se/student-papers/search/publication/8955234.

49 Michael T. Klare, "Autonomous Weapons Systems and the Laws of War," Arms Control Association, 2019, https://www.armscontrol.org/act/2019-03/features/autonomous-weapons-systems-laws-war.

50 Human Rights Watch, "Killer Robots," 2022, https://www.hrw.org/topic/arms/killer-robots.

51 Michael J. Barnes, Jessie Y. Chen, and Susan Hill, *Humans and Autonomy: Implications of Shared Decision Making for Military Operations*, report (Aberdeen, WA: US Army Research Laboratory Aberdeen Proving Ground United States, 2017), https://apps.dtic.mil/sti/pdfs/AD1024840.pdf.

52 Michael J. Barnes, Jessie Y. Chen, and Susan Hill, *Humans and Autonomy: Implications of Shared Decision Making for Military Operations*.

53 Karel van den Bosch, and Adelbert Bronkhorst, "Human-AI cooperation to benefit military decision making," *NATO*, 2018, https://www.karelvandenbosch.nl/documents/2018_Bosch_etal.

complete decision-making autonomy is given to machines.[54] Since the room for error and miscalculation is the least at this level, AI is thought of as not up to the task yet. Due to this, at the strategic level, man is the primary decision maker[55] while AI retrieves information, processes it, and stores it. This allows the decision-makers greater situational awareness, prepare for crisis and make informed independent decisions.[56] Presently, at the strategic level, there is a general agreement that even if technology allowed, AI would not be given full autonomy due to reasons of unforeseen problems associated with AI algorithms.[57] Nevertheless, since the level of threat and its repercussions at a strategic level are the greatest, for example, from an incoming dual-capable missile; it is being contemplated that AI could be deployed to make decisions to carry out second-strike missions.[58]

Analysis

At the tactical level, where the life of the combatant is at high risk with less warning and reaction time, AI would provide the required information to make decisions to carry out offensive and defensive manoeuvres. Additionally, under a highly volatile environment, AI would be able to provide accurate information for the decision-making process by de-cluttering the information. At the tactical level, in man-machine teaming, the machine can be given more authority to make decisions in order to provide a quick reaction that is beyond human cognitive abilities.

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54 Vincent Boulanin, Lora Saalman, Petr Topychkanov, Fei Su, and Moa Peldán Carlsson, *Artificial Intelligence, Strategic Stability and Nuclear Risk*, report (Stockholm, Sweden: Stockholm International Peace Research Institute SIPRI, 2020) https://www.sipri.org/sites/default/files/2020-06/artificial_intelligence_strategic_stability_and_nuclear_risk.pdf.

55 Philip Reiner and Alexa Wehsener, "The Real Value Of Artificial Intelligence In Nuclear Command And Control," *War on Rocks*, 2019, https://warontherocks.com/2019/11/the-real-value-of-artificial-intelligence-in-nuclear-command-and-control/

56 Vincent Boulanin, Lora Saalman, Petr Topychkanov, Fei Su, and Moa Peldán Carlsson, *Artificial Intelligence, Strategic Stability and Nuclear Risk*, report (Stockholm, Sweden; Stockholm International Peace Research Institute SIPRI, 2020) https://www.sipri.org/sites/default/files/2020-06/artificial_intelligence_strategic_stability_and_nuclear_risk.pdf

57 James Johnson, "Artificial Intelligence and The Bomb: Nuclear Command And Control In The Age Of The Algorithm," *Modern War Institute*, 2020.,

58 James Johnson, "Artificial Intelligence & Future Warfare: Implications for International Security," *Defense & Security Analysis* 35, no. 2 (2019): 147-169; James Johnson, "Artificial Intelligence And The Bomb: Nuclear Command And Control In The Age Of The Algorithm," *Modern War Institute*, 2020.

At the operational level, the time for decision-making is comparatively longer, but the abundance of information from various sensors and networks makes the decision-making a challenging task. Nevertheless, the abundance of information could be useful for more accurate decision-making for AI. Additionally, AI at the operation level could act as a wingman to assist with decisions when the situation becomes difficult. Lastly, at the strategic level, AI could gather information from various domains (such as air, sea, land, cyber, and space) to assist and speed up decision-making. This information can ensure accuracy and provide various options for offensive and defensive purposes. At this level, the man would hold more authority for decision-making as compared to the machine, as the room for error or miscalculation is minimal, and AI in its current stage is not yet up to the task.

Table 1: Impact of AI on Military Decision-Making Process on Future Battleground

Levels	**Conditions**	**Speed**	**Accuracy**	**Man-Machine**
Tactical	Risk-high Decision making time-low/less. Room for error – more	AI would provide speedy information to take decisions	AI would accurately sort out insignificant information from significant information required for decision making.	Machine has more authority than man in the decision making process.
Operational	Risk – moderate Decision-making time – relatively more than tactical level. Room for error- less	AI would process the abundance of information for decision making.	Higher accuracy of decisions as data would be coming from various sensors and networks.	Man and machine would play a supportive in decision making process.
Strategic	Risks-highest Decision-making time – relatively the most Room for error- least	Speedy decisions may not always ensure accuracy of the decisions.	Al will sort and assess information to greater accuracy.	The man would need to hold more decision making authority.

Risks of AI in Decision Making

Although AI could assist in the decision-making process, the risks of introducing AI would raise a combination of legal, moral, accountability, and security concerns.[59] AI, during the decision-making process, could fail to sense the gravity of consequences which could lead to exaggerated, less optimal, or other errors in decision-making process. Under such circumstances, an accidental or inadvertent escalation of conflict or crisis could be triggered. Therefore, a discussion to elaborate on the risks of the introduction of AI for decision-making is expounded subsequently.

Figure 1: Risks of AI in Decision Making

Source: Author's Research

Black-box in Decision-Making The complexity arises when military decision-makers cannot understand the AI decision-making process. The matter of the black box adds to the complexity when the AI developer himself/herself cannot understand and explain specific AI algorithmic processes. Moreover, when the military purchases AI decision-making algorithms from a private company or another country, the data rights are owned by that developer or country and are subjected to their demands.[60] This presents a great risk as the military decision-

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59 Bonnie Docherty, "Humanitarian Disarmament in 2022," *Human Rights Watch*, 2022,https://www.hrw.org/news/2022/02/08/humanitarian-disarmament-2022

60 Zoe Stanley-Lockman, *Military AI Cooperation Toolbox*, Issue Brief (Washington, D.C.: Center for Security and Emerging Technology, 2021), https://cset.georgetown.edu/wp-content/uploads/CSET-Military-AI-Cooperation-Toolbox.pdf

making process varies from country to country and it could expose vulnerabilities and challenges in the AI algorithmic decision-making process.[61]

Accountability, Trust, and Responsibility Increasing decision-making dependence on AI would require complex AI algorithms to make complex decisions. This would require the decision-makers to trust AI systems, which could cause overlooking accidental and deliberate errors in AI algorithms.[62] This dependence on the AI system, although it develops a man and machine team, blurs the lines of accountability and responsibility. It legally complicates the matter of accountability and responsibility for actions. As the coding, manufacturing, and assembling of a single drone, for example, is being done by multiple companies, it would be difficult to ensure responsibility and accountability between multiple actors. Additionally, in case fully autonomous weapons are given the responsibility to decide to engage the target, it is unclear who would be held responsible in case of casualties. Would the drone, military or AI developer assume responsibility?[63] This would also require questioning the morality of the data sets that the robot was trained on.[64]

Superior Decision Maker Within AI-based military decision-making, the two processes that lead to a decision are, firstly consensus between the human and AI on the decision and, secondly, the selection of the final decision.[65] Within this two-step decision-making process, it remains unclear who would be the superior decision-making authority. The superior decision-making authority must be aware of the legal, moral, and ethical implications of the decision.[66] Additionally, the potential risks that could be highlighted here included the legal,

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61 Zoe Stanley-Lockman, *Military AI Cooperation Toolbox.*

62 Melanie Sisson, *Multistakeholder Perspectives on the Potential Benefits, Risks, and Governance Options for Military Applications of Artificial Intelligence*, report (New York, NY: United Nations, 2019), https://reliefweb.int/sites/reliefweb.int/files/resources/TheMilitarization-ArtificialIntelligence.pdf.

63 Emma Schuster, *When Something Has to Give: The Intersection of Artificial Intelligence, Military Decision-Making and International Humanitarian Law*, Master's Thesis (Lund, Sweden: Lund University, 2018), https://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=8955234&fileOId=8955235.

64 George R. Lucas Jr, "Automated Warfare," Stan. L. & Pol'y Rev 25 (2014): 317, https://heinonline.org/HOL/LandingPage?handle=hein.journals/stanlp25&div=18&id=&page=.

65 Francisco Javier Cabrerizo, Juan Manuel Moreno, Ignacio J. Pérez, and Enrique Herrera-Viedma, "Analyzing Consensus Approaches in Fuzzy Group Decision Making: Advantages and Drawbacks," Soft Computing 14, no. 5 (2010): 451-463,https://idp.springer.com/authorize/casa?redirect_uri=https://link.springer.com/article/10.1007/

66 Emma Schuster, *When Something Has to Give: The Intersection of Artificial Intelligence, Military Decision-Making and International Humanitarian Law*, Master's Thesis (Lund, Sweden: Lund University, 2018), https://lup.lub.lu.se/luur/

moral, and ethical awareness of AI developers, and if the data trained by the data scientist was aware of the implications of military actions.

Multiple Decision Makers On the future battleground, an army would comprise multiple warfighters and AI decision-makers. Under such a scenario, combatants would need to be able to understand their role, the role of AI, and the role of other combatants on the battleground. Similarly, at the operational level, with multiple networks of AI involved, the team would be required to learn how decision-making with AI is designed and the responsibilities allocated.[67] Likewise, at the strategic level, the decision-makers would need a full picture of multiple decentralized operations in order to understand their roles and responsibilities.

Biased Decisions A combatant's cognitive decision-making process is overshadowed by biases such as past experiences or training. A combatant who barely survived an IED would be cautious of proceeding as compared to one who has no exposure to such a trauma. Likewise, within a man-AI decision-making team, a combatant's decision could be the result of his own experiences and biases rather than the suggestion of AI.[68] Similarly, AI could have various biases that occur at different stages in the AI algorithmic process and are based on how AI algorithms are trained to perceive, understand and experience decision-making.[69]

Decision Errors Human cognitive decision-making could experience miscalculation or inaccurate judgment of the available information. Research conducted on the matter by RUSI disclosed that human error in decision-making could be a failure of combatants to think 'outside the box'.[70] Within AI decision-making, an error in decision-making could present a grave implication, especially at the strategic level. Like humans, AI systems could also experience an algorithmic error, for instance, misidentifying an object on the battleground[71] such as a blue army tank as something other than a tank or misinterpreting the

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67 Alexander Kott, and Ethan Stump, "Intelligent Autonomous Things on the Battlefield," In *Artificial Intelligence for the Internet of Everything* (Cambridge, MA: Academic Press, 2019), accessed on 14 March 2022, https://arxiv.org/pdf/1902.10086.pdf.

68 Stuart Armstrong, Kaj Sotala, and Seán S. Ó hÉigeartaigh, "The Errors, Insights and Lessons of Famous AI Predictions–And What They Mean for the Future," *Journal of Experimental & Theoretical Artificial Intelligence* 26, no. 3 (2014): 317-342, https://www.tandfonline.com/doi/full/10.

69 Cade Metz, "We teach AI systems everything, including our biases," *The New York Times* 11 (2019), https://people.eou.edu/soctech/files/2020/12/BERTNYT.pdf.

70 Malcolm James Cook, "Human Factors in Complex Decision-Making," *RUSI*, 2007, https://www.rusi.org/publication/human-factors-complex-decision-making.

71 Greg Allen, and Taniel Chan, Artificial Intelligence and National Security, (Cambridge, MA: Belfer Center for Science and International Affairs, 2017), https://www.belfercenter.org/sites/default/files/

action of forces. Likewise, if a human makes a decision based on misidentifying the object, it could become a liability or a difficult situation on the battleground.[72]

Cyberattack on AI In the battleground, AI is actively being used for the decision-making process for a defensive and offensive operation. An offensive cyberattack on AI decision-making systems could tamper with the information cycle and develop a misleading prediction of the battleground.[73] If such an attack takes place at the strategic level, it could lead to unintended escalation and devastating consequences. Cyberattacks on AI decision-making facilities could hunt for potential weaknesses and exploit them when appropriate for the adversary.[74] For instance, a cyberattack on AI decision-making algorithms could mislead the troops into a vulnerable position and make them an easy target.

Recommendations

Figure 2: Recommendations for Use of AI in Future Decision Making

Source: Authors Research

Indigenization As the world is advancing in dual-use technologies, it is fundamental that a conducive environment for indigenous technological development is given attention. This would make the states less dependent on imported technologies. An indigenous AI software for decision-making would be less vulnerable to threats and open to improvements as dictated by the situation. Furthermore, indigenous AI decision-making software would be based on the requirements of terrain, strategy, and situation that the national military has planned. This would preclude the chances of any third-party exposure or proliferation of their own strategy and plan to the enemy.

Technological Compatibility If AI is to be employed for decision-making, it would require efficient and fast computers in order to ensure technological compatibility between the weapon systems. A lack of efficient and fast computers may cause unwanted errors and delays in AI algorithms which could jeopardise

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72 James Johnson, "Artificial intelligence in nuclear warfare: a perfect storm of instability?" *The Washington Quarterly* 43, no. 2 (2020): 197-211, https://www.tandfonline.com/doi/full/10.1080/m0IYUIt0pV7Xu9t_rmWeOpUREgDXVNtwKOTJ727GzFEhYSjeX.

73 Muhammad Mudassar, Yamin, Mohib Ullah, Habib Ullah, and Basel Katt, "Weaponized AI for Cyber Attacks," *Journal of Information Security and Applications* 57 (2021): 102722, https://www.sciencedirect.com/science/article/abs/pii/S2214212620308620.

74 Rod Thornton, and Marina Miron, "Towards The 'Third Revolution in Military Affairs' The Russian Military's Use of AI-Enabled Cyber Warfare," *The RUSI Journal* 165, no. 3 (2020): 12-21, https://www.tandfonline.com/doi/full/10.1080/

the purpose of using AI on the battlefield. Therefore, an investment in establishing an efficient and fast computer development setup could ensure progress in this field.

Human Factor Using AI to make decisions on the battlefield would require well-trained and technology-savvy soldiers. Soldiers must be trained in the function of AI technology and be aware of their actions' ethical, moral, and legal consequences.

Dependence Syndrome Although AI on the battlefield would play an assistive role, it is important that dependence on the assistive role of AI does not lead to a dependence syndrome. Technology so far is only playing a supportive role on the battlefield, and it should continue to do so. As of yet, AI has not become super intelligent that it can be given the authority to make the final decision. Therefore, it is important that soldiers are trained in a manner that allows them to function on the battlefield with and without AI.

Review of Strategy Every time a new element or technology is introduced on the battleground, it requires a readjustment of the strategy to incorporate it. Similarly, the introduction of AI decision-making on the battlefield would require a readjustment of strategy. It may include opening new lines of communication within the military (vertically and horizontally) and between the military and the political and civilian decision-makers. The renewal or readjustment of the strategy to include AI decision-making could be an effective step to improve the speed and efficiency of individual and organisational responsiveness.

Conclusion

From the above discussion, it is clear that AI has a role in future warfare. Emerging technologies, especially AI, have spurred military competition between states. Under the security dilemma, this competition drives military technology development.[75] Due to this competition, states are investing in and resourcing AI projects in order to become more efficient than their competitors. This is also increasing the use of AI in military decision-making.[76]

Although AI speeds up and provides accuracy in the decision-making process, it also exposes the entire process to a number of risks and complications. The matter of trust, accountability, and responsibility with AI decision-making complicates the legal, moral, and ethical dimensions. It is unclear who would be the superior decision-maker in, for instance, a constrained timeframe that requires an immediate response. Similarly, in joint all-domain command and control where multiple decision-makers and multiple AI sensors are carrying out decision-making, the decision-making process would be complicated if proper and pre-defined roles are not identified and strictly adhered to. Additionally, a

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75 Zoe Stanley-Lockman, *Military AI Cooperation Toolbox*. https://cset.georgetown.edu/wp-content/uploads/

76 Erik Lin-Greenberg, "Allies and Artificial Intelligence: Obstacles to Operations and Decision-Making," *Texas National Security Review* 2*, no 2*, (2020): 56-76, https://tnsr.org/2020/03/

combatant's cognitive decision-making capability could be fogged by his biases based on prior exposures to certain events. Similarly, AI algorithms could also be biased if the data it is trained on is biased. These factors alone and in combination could impair the AI-aided decision-making processes. Practically, neither the combatants nor the AI algorithms are free of errors and miscalculations. This would also impact the decision-making process. In a high-threat environment, AI decision-making systems could also be exposed to cyber interferences and attacks, which present a risk of errors and/or misjudgment in decision-making. Lastly, the matter that risks decision-making the most is when AI algorithms are unexplainable by the developer or the combatant (the Blackbox Syndrome); this makes the AI decision-making process unexplainable, severely affecting the morality and legality of war.

Witnessing the interest of states in becoming efficient powers in AI, it is believed that an AI arms race is in progress.[77] This AI arms race is dangerous as it is developing neither symmetric nor comparable AI decision-making applications. The U.S. development models for military AI are different from Chinese[78], and Chinese are different from Russian.[79] Although there is a debate on developing legal framework on AI development, no state has agreed on one set of principles. This creates greater ambiguity in comparing or finding parallels in AI development models. This could expose threats and vulnerabilities in a geopolitical environment that needs immediate attention. Although a pause in the AI progression and development by states is not in sight as heavy investments are pouring there, it is necessary that measures are taken at a global level that ensure that the development and deployment of AI in defense and military follow certain ethical guidelines and principles. These principles can be formulated through an international discussion of multiple stakeholders, such as AI researchers, concerned academicians, and military personnel. The relationship between AI and military decision-making presents a move ahead in technological development; however, this development should not be a move away from universal ethical practices and laws of warfare.

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77 M. L. Cummings, *Artificial Intelligence and The Future of Warfare*, report (London: Chatham House for the Royal Institute of International Affairs, 2017), https://www.chathamhouse.org/sites/default/files/publications/

78 Elsa B. Kania, "Artificial Intelligence in China's Revolution in Military Affairs," *Journal of Strategic Studies* 44, no. 4 (2021): 515-542, https://www.tandfonline.com/doi/full/10.1080/01402390.2021.1894136.

79 Katarzyna Zysk, "Defence Innovation and the 4th Industrial Revolution in Russia," *Journal of Strategic Studies* 44, no. 4 (2021): 543-571, https://www.tandfonline.com/doi/full/10.1080.

Book Reviews

Title: **The Challenge of Enlightenment, Conflict Transformation, and Peace in Pakistan**
Author: **Dr Moonis Ahmar**
Publisher: **Routledge, London, 2023, 164.**

Reviewed by Maheen Farhat Raza, Lecturer at the Department of International Relations, National University of Modern Languages.

Cultural enlightenment offers an innovative and transformative approach that emphasizes the role of scientific reasoning, tolerance, dialogue and a broadminded approach to mitigate societal challenges like extremism and socioeconomic inequities. This idea is embedded in the intellectual traditions of enlightenment and seeks to reform societies by confronting orthodox ideals and promoting critical thinking. Pakistan as a nation is dealing with militant ideologies, clerical dominance and feudal forces to achieve endogenous peace and social justice. In this context, Prof Moonis Ahmer's book, "The Challenge of Enlightenment, Conflict Transformation, and Peace in Pakistan" is remarkable because it offers a comprehensive exploration that addresses cultural enlightenment as a tool for conflict resolution and establishment of a comprehensive socio-political order. In a nutshell, this book fosters reasoning and moderation in one of the globe's most diverse yet conflict-prone societies.

Dr Moonis Ahmer is a meritorious professor of International Relations. His extensive research on terrorism, conflict resolution, Central and South Asian politics is the foundation of his academic background. His scholarly engagement with global intellectual traditions and deep insights into Pakistan's socio-political landscape reflect an appreciation of Dr Ahmer's endorsement of modernist principles like rationality and inclusivity.

The latest book of Professor Ahmer, "The Challenge of Enlightenment, Conflict Transformation and Peace in Pakistan", is a scholarly exploration of cultural enlightenment as a transformative tool for mitigating conflict and fostering peace in Pakistan. The book is theoretical and policy-oriented, thereby, making it relevant for academicians and policymakers. However, the text of the book is also relevant for the scholars of social sciences interested in South Asian politics.

The central argument of the book illustrates that cultural enlightenment may serve as a transformative tool to address the social and political issues of Pakistan including religious intolerance, extremism and radicalization. The author advances the concept of enlightenment as a cultural movement focusing on tolerance and social justice that can help Islamabad address its socio-economic inequalities, theological dominance, and militant ideologies. By focusing on the European Enlightenment, Dr Ahmer postulates that Pakistan may adopt an analogous approach to promote critical thinking, inclusivity, and peace. The author accentuates that the secular elitist factions in Pakistan have a responsibility to endorse this cultural shift by influencing the societal mindsets and emphasizing the needs of the predominantly rural segments of Pakistan.

The central argument of this book is embedded in philosophical and historical analysis, which is based on comparative analysis, and it demonstrates parallels between Europe's enlightenment and Pakistan's contemporary socio-political challenges. The author elaborated that universal education and freedom of expression led to European societal progress. Alongside the comparative analysis, the book offers empiricism and policy orientation towards practical recommendations to implement reforms in the education sector, governance structures and religious seminaries of Pakistan.

The book is divided into seven logically cohesive chapters. The first chapter of the book presents the introduction, where the author introduces the historical debate between faith and reason. Professor Moonis Ahmer highlights that Europe's endorsement of scientific reasoning, individualism and secular governance structures led to transformative progress. The author juxtaposes this with Islamabad's socio-cultural stagnation, where clerical pressures continue to suppress rational discourse and critical thinking. The author provided a preliminary discussion highlighting the challenges faced by Pakistan, such as religious extremism, sectarianism, and an education system that undermines analytical reasoning.

The second chapter of the book explores the Enlightenment as a societal reform movement. The author asserts that Enlightenment is not only a philosophical construct but rather a socio-political movement that transforms societies. Professor Ahmer is skeptical about the resistance to Enlightenment within the religious and political institutes of Pakistan. The author asserts that these structures have historically emphasized ideological conformity over intellectual progress. This chapter further accentuates the role of education in advancing enlightenment and examines how Pakistan's educational curriculum reforms may create a conducive environment for critical thinking and scientific inquiry.

The third chapter of "The Challenge of Enlightenment", relates cultural enlightenment with conflict resolution. The author speculates that

conflicts, when considered with an enlightened approach, could lead constructive outcomes. Dr Ahmer posits that advancing dialogue, rational debate and secular governance may suppress the root causes of violent extremism. It also criticizes the dependence of Pakistan on militarized conflict resolution and, therefore, recommends a paradigm shift towards intellectual engagement.

The fourth chapter of this book is titled "Enlightenment and Pakistan" and provides a critical analysis of Pakistan's struggle to adopt enlightenment. This chapter provides insight into the socio-political elements and historical factors undermining the process of enlightenment in Pakistan. According to the author, colonial legacies, along with feudal hierarchies and politicization of the religion, are pivotal impediments to progress. Moreover, Professor Moonis claims that Pakistan's political elite has employed religious rhetoric to consolidate power as per the historical antecedents. Therefore, this marginalizes progressive voices and stifles reforms. The chapter also argues that the state has failed to implement policies that advocate rational governance structures, inclusivity, and scientific education.

The fifth chapter, entitled "Conflict Transformation through Cultural Enlightenment", discusses strategies for employing cultural reforms in bringing peace. The author offers a plan for implementing enlightenment-guided policies in Pakistan based on reforms in education, media, and governance sectors. The author emphasizes the significance of moderate Islam as a tool to combat religious extremism. He recommended that policymakers should actively advance narratives of tolerance, co-existence, and intellectual freedom. Dr Ahmer stressed the potential role of international organizations and civil society in advancing enlightenment-based reforms in Pakistan.

"Lessons to be Learned from Europe" is the sixth chapter of the book that provides a comparative analysis of the European Enlightenment and its significance for Pakistan. This chapter explores European societies' transition from medieval dogmatism to modern rationalism under secular governance structure. Dr Moonis discussed the importance of the establishment of institutions and segregation of religion from politics and suggested that Pakistan could reflect on Europe's historical experiences to navigate its own corridor towards enlightenment.

The last chapter of the book reiterates that the long-term socio-political stability in Pakistan lies in its capacity to embrace the principles of enlightenment. The author calls for a comprehensive societal transformation that prioritizes education and rational discourse. He agrees that the pathway to enlightenment in Pakistan's challenging and incremental reforms with persistent advocacy may lead to a profound shift. In a nutshell, the seventh chapter calls for action and provides a

roadmap for policy makers and civil society actors committed to foster a culture of enlightenment in Pakistan.

Prof Moonis Ahmer's has authored a thought-provoking book with several strengths that are outstanding for the readers. Firstly, the book has presented an innovative perspective that links cultural enlightenment with conflict transformation. Secondly, the interdisciplinary approach of the book is pivotal as it bridges philosophy, political science, history, and religious studies to present a comprehensive analysis. Third strength is its relevance with the contemporary and pressing challenges of Pakistan like extremism and intolerance among others. Finally, but the most important strength of this book is that it offers pragmatic recommendations for advancing critical thinking and rational discourse in Pakistan.

Title: **Sri Lanka's Easter Sunday Massacre: Lessons for International Community**
Author: **Dr Rohan Gunaratna**
Publisher: **Penguin Books, 2024, 314.**

Reviewed by Fatima Tul Zahra, Post-Graduate Diploma, International Relations, National Defense University, Islamabad.

In his deeply perplexed yet conscientiously researched book *'Sri Lanka's Easter Sunday Massacre: Lessons for International Community',* Dr Rohan Gunaratna offers a detailed analysis of a series of the most horrible terrorist attacks that unfolded in Sri Lanka on Easter Sunday, 2019. This book, published by Penguin Books, presents an account of the radicalization process, contemplation of the resilience of Sri Lankan people, and exemplar for the international community. Well-known for his work on counterterrorism, in this book, Gunaratna uses his compelling expertise to provide the readers with an insight into the attackers' mentality. This employs deep and thorough historical analysis and traces the roots of these bombings to the Salafi-Wahhabism doctrine, which advocates hostility towards non-believers. He deciphers the subtle courses of actions these ideological foundations instilled in Muslims of Sri Lanka, exploiting pre-existing sectarian and social fractures. Rather than making non-explicit claims, the author has concentrated on particular figures involved in the scene, their rationale, and recruitment tactics. This subjective perspective enables the reader to comprehend the intricacy of fragments that contributed to the radicalization of these individuals. The author provides a very candid critique of the intelligence failures and bureaucratic obstacles. His analysis highlights the overlooked warnings and lack of interagency coordination inside Sri Lanka's governmental agencies.

Nevertheless, this book is not just documented history of turmoil but also highlights the unprecedented resilience of Sri Lankan people. The author devotes attention to the national solidarity surge and persistent resolve to reclaim and rebuild. He presents an appraisal of people of Sri Lanka and showcases the strength of their empathy amid devastation.

On Easter Sunday, April 21, 2019, a group of coordinated suicide attacks led to the destruction of three churches and three hotels in Sri Lanka. The attacks killed more than 250 people and left over 500 injured.

The life and death of Zahran Hashim, described in the second chapter, reveals a lot about the movement. Zahran was seen as a clever, attractive leader who took advantage of arguments in religion and problems with the government and ignored official institutions to bring people to his cause. The chapter explains that Zahran made use of the

Internet to spread his Salafi-Wahhabi ideas, encouraged radicalization with the help of Facebook and Telegram, and held training camps in person for future jihadi fighters. Gunaratna points out that many Sufi leaders and others in the Muslim community alerted the authorities about Zahran and his team on several occasions; however, officials were slow to react, politicians refused to believe, and the intelligence service was not well united.

Gunaratna does an excellent job of showing the connection between local and global extremist ideologies. Sri Lankan nationals carried out the attacks, but they were influenced by global jihadist beliefs. Having a flag with an ISIS symbol was not done just to demonstrate support. He notes that various members of the group went abroad to be trained by the Islamic State in both ideas and operations. Simply, the use of terrorist propaganda videos, secret messages, and pledging loyalty to a world terrorist leader in the attack proves that local areas have been strongly influenced by global terrorist ideologies. The author additionally points out that Sri Lankans fighting overseas were able to communicate with people at home for recruitment and financial issues.

The third chapter is dedicated to the Colombo faction of the IS Sri Lanka branch. Gunaratna explains how the team was built and how it carried out attacks. It becomes a real case example of how terrorist logistics work. It is explained to the readers how suspects found safe houses, hoarded supplies needed to make bombs, and tested them. It is slightly unnerving to see how, step by step, children who were educated and grew up in good families, were drawn into an extremist group to die for the imagined caliphate. The influence of psychology on radicalization is seldom discussed in policy-making but is given thoughtful treatment by the author.

In the later chapters, Gunaratna highlights that the authorities in Sri Lanka received warnings from India weeks before the attack, yet did nothing about them. He highlights a larger issue of the system not working well. Fighting among different agencies, reluctance on the government's part, not acknowledging the danger of Islamist extremism, and not having one national counterterrorism plan were all contributing factors. Gunaratna suggests that if Sri Lanka wants to prevent more of these atrocities, it must go through a thorough review and improvement of its institutions. He suggests that law enforcement should be trained better, laws against inciting and practicing extremism should be enacted, and there should be more active community programs. Muslim youth in Sri Lanka after the war were left alienated by the role that ethnonationalist politics played in encouraging identity-based extremism.

Such incidents show how rapidly dangerous ideas can spread online if no one counters or monitors them. Gunaratna highlights the

importance of keeping watch, developing good policies, and engaging with communities to address terrorism.

Gunaratna's book has lessons that go beyond Sri Lanka and can be applied to many other countries. What is happening in the island nation is also true elsewhere in the world. This phenomenon can be seen from Europe to Southeast Asia. Though ISIS has lost its territories, its online activities could still lead to future threats from small groups. It points out how digital surveillance, running counter-narrative campaigns, sharing intelligence, and developing inclusive portfolios are important to combat extremism. Such lessons apply to any country dealing with religion-based terrorism, not only Sri Lanka.

The concluding chapters of this book serve as a powerful appeal for the global collaboration in combating terrorism. The author outlines the tactile strategies and policy recommendations for dismantling digital networks used by terrorists for recruitment and promoting interfaith understanding and underpinning regional intelligence-sharing mechanisms. The author's insights are applicable universally but are also deeply embedded in the Sri Lankan nation's trauma. *Sri Lanka's Easter Sunday Massacre: Lessons for International Community* is not an easy read. It's a reminder of religious extremism and its disturbing consequences. However, it's an essential one. Aided by a compelling fusion of personal testimony and rigorous analysis, the author reveals systemic shortcomings that extremists exploit and outlines a framework to prevent future catastrophes. This book is a pre-requisite for everyone invested in international security, countering radicalization, and the long-standing resilience of the human spirit.

Title: Realism: A Distinctively 20th Century European Tradition (Trends in European IR Theory)
Author: Alexander Reichwein, Felix Rösch
Publisher: Palgrave Macmillan, 2020, 167

Reviewed by Dr Huma Siddiqi, Assistant Professor, IR Dept, NDU.

The book "Realism, Trends in European IR Theory," edited by Alexander Reichwein and Flix Rosch, is a 2022 publication of Palgrave Macmillan. In addition to the introduction by Reichwein and Rosch, the book contains eight well-researched chapters by various authors. Overall, it attempts to introduce to the world the contributions and debates of European scholars, especially in the realm of Realism, which is mostly understood as an American doctrine. However, a chapter on structural realism by Anders Wivel is also included. In all chapters, the authors methodologically argue that it is a popular misconception that many IR theories, especially realism, have their origin in U.S. Realism, especially, gets caricatured as a power-centric doctrine associated with American foreign policy during the interwar era and the Cold War. On the contrary, realism originated in Europe, emerging from a historical backdrop of totalitarian regime failure and the devastation of two World Wars. Even the key concept of balance of power originated in fifteenth-century Europe, gaining prominence as a foreign policy strategy among Italian city-states. These experiences developed a historical consciousness in Europe, which informed a more critical view of unrestrained power politics. Consequently, these theories developed as an intellectual tradition that is morally neutral yet includes "ethical considerations", advocating for responsible engagement with the complexities of international politics. When properly understood, European realism supports a pluralistic approach to international relations, giving due consideration to diverse interests and values among states. This contrasts with the often unilateral or hegemonic tendencies seen in American realism. Some convergence between European and American realists can be found in the critique of idealism. European realists argue that the pursuit of power must be guided by moral and ethical considerations, which again contrasts with American realists' perspective of prioritizing effectiveness over morality. The same is true in structural realism, which is accepted as a key IR theory in Europe. European structural realists approach it by embracing the complex character of international relations. They recognize the value of international institutions and law as mediators in power politics, advocating for their ethical role in maintaining peace and stability. They also find less difficulty in its potential inconsistencies and loose ends than their American counterparts.

The book also discusses the role and contributions of various European scholars like Friedrich Meinecke, E.H. Carr, Carl Schmitt, John Herz, Niebuhr, Hannah Arendt, Hans Morgenthau, Leo Strauss, and Arnold Wolfers. Keith Smith discusses the works of German political scientist Friedrich Meinecke (1862-1954). Meinecke critically examined the intellectual development of the German nation, the political development of the German nation-state, the negative aspect of nationalism, blinging caused by ideological currents, militarism, and Germany's abortive development, to question if political validity justifies breaking moral laws. Meinecke analytical and empirical approach and normative theorising managed to present less rigid interpretations of realism and condemned power politics. Meinecke perspective on the interplay between power (kratos) and morality (ethos) was also used by Morgenthau (1961) in his work on American foreign policy.

Dario Battistella discussed the contributions of Edward H. Carr and Carl Schmitt, who paved the way for the development of post-war classical realism. Both shared a hostile stance against liberalism and idealism, which was the dominant view in the interwar period. This led them to see international politics as highly conflictual and driven by the struggle for power. For both, power was the essential nature of domestic and international politics. Despite this common ground, Schmitt was apprehensive of America, criticising it for using economic instruments to shape European state behaviour without being institutionalist. Luca Castellin and Felix Rosch's chapter highlights that many scholars like John Herz, Reinhold Niebuhr, Hannah Arendt, Hans Morgenthau, Leo Strauss, and Arnold Wolfers who made significant contributions to political theory in the US were émigré scholars from various parts of Europe. The Weimer Republic and the Holocaust significantly shaped their intellectual development.

Casper Sylvest's chapter discusses the contours of John Herz's realism, described by Herz as "realist liberalism" or "nonutopian idealism". Herz most significant contribution is the concept of "security dilemma", which emphasises the importance of state perception and understanding the perspective of other actors. Both these ideas remain relevant in contemporary IR scholarship. Oliver Zajec's chapter elucidates the contribution of Dutch-born Nicholas Spykman towards cooperation in international systems. Spykman supports international cooperation and advocates for a "socio-centred realism", which, while an unapologetic defence of national interests, does not derogate from a firm commitment to multilateralism. Guided by contemporary IR interest in ethics rather than power, Kamila Stullerova explores the difference in American and European realism through Stanley Hoffman's comparison of Morgenthau's theoretical approach to realism with that of Frenchman Raymond Aron. She states that the sociologically informed French realism places emphasis

on inter-state systems and world economic system, as well as on domestic regimes and prevailing domestic ideologies. Whereas the latter is not given due consideration in American realism, while it can be found in Morgenthau's earlier writings in German. In US, Morgenthau chose to use a reductionist concept of empirical power while theorising realism.

An interesting chapter in the book by Vassilios Paipais discusses "Christian realism" in the works of Reinhold Niebuhr. Paipais states that Christian realism has been popular "among the American political elite across the political spectrum, from Jimmy Carter and Madeleine Albright to Condoleezza Rice, Hilary Clinton and, recently, John McCain and Barack Obama whose Audacity of Hope is a thoroughly Niebuhrian work." Niebuhr had built his entire synthesis of Christian ethics on the ever-present tension between normative concerns and power politics. It endorses interventionism drawn from early Christianity, which emerged as a transformative revolutionary movement bent on radically changing the relationship between the self and the world. The idea of Christian realism and Just War led Niebuhr to endorse the carpet bombing of Hamburg and Dresden by the Allied powers and the use of atomic bombs against Japan. Christian realism's active commitment to social and poetical affairs is also endorsed by Europeans who only call for caution in the use of force while curbing the spread of evil in the world, but they never subscribe to political pacifism. In fact, Europeans pursue a middle ground between *pacifism* (rejecting war entirely) and *interventionism* (actively using military force to achieve political or moral goals).

In the transformative world order when polarities are being rearranged the book is an informative and interesting read for students and scholars of IR. It highlights elements of ideological and conceptual drift in the west, specifically, U. S and its European allies.

Title: **Islamic Perspectives on International Conflict Resolution: Theological Debates and the Israel-Palestinian Peace Process**
Author: **Shameer Modongal**
Publisher: **Routledge, New York, 2023, 199**

Reviewed by Saima Rashid, Student MPhil, PCS Department, National Defence University.

Over the course of humanity's existence, conflict has shaped behaviour and history. Even if some disputes might not be settled, they can serve as a helpful reminder of the difficulties in resolving conflicts between people and the necessity of employing efficient conflict-resolution techniques. On the other hand, unsolved conflicts can also have negative effects, including misery and violence. Conflicts within regions seriously threaten the management of international political events and the world's stability. Basic concepts such as freedom in politics, territorial integrity, and the inner functioning of developing nation-states are often at the forefront of these disagreements. Furthermore, conflicting interests of different international entities frequently impact them. Palestine-Israel is one of the intricate issues of recent history which demands a fair solution. Within the framework of the Palestine-Israel conflict, Shameer Modongal explores the complex interplay between religion, politics, and diplomacy in 'Islamic Perspectives on International Conflict Resolution.' By carefully examining Islamic teachings and theological arguments, Modongal examines how Islamic principles may help resolve one of contemporary history's longest-running and most contentious conflicts.

Modongal methodology questions the traditional understanding of disputes as exclusively secular processes. In the introductory chapter, he presents an Islamic framework for resolving conflicts, asserting that religion is a resource that may be unifying rather than destructive. He shares a broad understanding of peace and conflict with reference to the Qur'an and Hadith. With daring approach Modongal highlights that religion shouldn't be reduced to a detracting factor in conflict resolution. Instead, he contends that Islamic ideas can provide insightful guidance and effective means of promoting harmony, comprehension and harmony. This innovative reassessment of a religion's influence on conflict resolution marks a substantial break from typical approaches and creates new opportunities for research and discussion.

Modongal provides an insightful analysis of how Islamic teachings influence relations with non-Muslim states and the attempt for peace. He successfully negotiates difficult theological and political landscapes with the help of straightforward analysis and historical insights, giving readers a greater grasp of the difficulties and possibilities faced by modern

diplomacy. With an emphasis on communication, diplomacy, and respect for one another, the book offers insightful advice on how to negotiate enduring peace treaties in a multicultural and globalized world. One of the many reasons for the Oslo Accord's collapse is its disregard for the religious component of the Palestine-Israel conflict. As pointed out by Modongal, the Oslo Accord did not sufficiently address the deeply ingrained sentiments regarding religion and ideologies that have been the basis of the conflict since the late 19th century, despite the fact that it made tremendous progress in diplomacy.

In the second chapter, the author begins a thorough investigation of the rules guiding international settlement of disputes from an Islamic perspective. Starting with a careful analysis of basic concepts like peace, conflict, and conflict resolution, the discussion goes on to include lessons from the Quran, Hadith, and Islamic law. The author focuses on the moral requirements of peace, fairness, and kindness as upheld by Islamic teachings by methodically explaining Islamic literature. These values, which include tolerance, forgiveness, non-violence, and upholding human dignity, serve as the cornerstone of the Islamic approach to resolving disputes. In addition, the author sheds light on the Islamic notion of the community as a harmonious family, equating it with the welcoming vision of the Prophet Muhammad (S.A.W.W.) expressed in the Medina Constitution, which acknowledged diversity within the community while promoting cohesion. Drawing a comparison between Islamic and conventional approaches to conflict resolution, the author emphasizes how Islamic values promote equality, compassion, and dialogue above the formal and power-centric concepts that are frequently seen in Western approaches. Examining Islamic law concerning foreign relations, the author delves into the complexity of ideas like Dar-ul-Islam and Dar-ul-Harb, clarifying Islam's fair and impartial strategy for interacting with non-Muslim societies, which is based on the values of equity and respect for all.

In the third chapter, the author probes deeply into the religious dimensions of the conflict between Palestine and Israel, examining the historical accounts of Israel's creation and its claims to the ancestral homeland of Canaan. The author examines Jerusalem and other holy places in Palestine, demonstrating the spiritual significance of these locations for both Jews and Muslims. The chapter also compares the biblical narratives of Israel and Palestine in order to look at the dividing power of religion in both societies and politics. Despite this, the author also shows how religion may help resolve conflicts; examples from the conflict are used to highlight the possibility of religiously motivated efforts at peacemaking.

The author explores Islamic theological discussions about peace treaties and conflict settlement with Israel in the fourth chapter,

emphasizing the perspectives inside Palestine. Starting with the theological discussions that followed the Camp David Accords in 1979, the chapter explores the range of viewpoints on the viability of settling the dispute with Israel. It draws attention to the various perspectives on whether a peace agreement with Israel can be achieved while pointing out the inconsistencies and ambiguities. The chapter offers an overview of multiple Islamic viewpoints from both inside and outside of Palestine, providing insights into the complex discourse regarding peace initiatives with Israel.

In the final section, the author highlights the applicability of Islamic conflict resolution concepts on both the global and national levels. The author challenges the prevalent practice in the peace discussions between Palestine and Israel of marginalizing religious viewpoints and makes the case against doing so. The author argues that religious institutions like synagogues, churches, and mosques can be used as conflict resolution locations. According to the author, ignoring these sites closes off possibilities for peace. Palestine's significance for Muslims, Christians, and Jews alike, as well as its centrality to all Abrahamic religions, has been debated. Furthermore, the author makes the claim that Palestinian society is more religiously oriented than Israeli society, providing instances such as the shift in approach used by indigenous movements like Hamas from calling for armed resistance to constructive dialogue. In closing, the author highlights the range of religious perspectives that support conflict resolution in the region by sharing a number of fatwas and religious decisions in favour of peace initiatives.

Modongal skillfully negotiates complex theological terrain to offer insightful viewpoints to scholars, policymakers, and peace activists who seek to understand Islam's contribution to peace and justice, both in the Middle East and beyond. For anybody interested in the complex relationship between political and faith-based views, especially in the ongoing efforts to find a just and long-term solution to the Palestine-Israel problem, this book is vital. In conclusion, it can be stated that the book ‘Islamic Perspectives on International Conflict Resolution’ is a useful and insightful contribution to the reservoir of work that examines the relationships between faith, negotiations, and dispute resolution.

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