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SRI LANKA NAVY JOURNAL

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

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FOREWORD

It gives me immense pleasure to pen the foreword for the 12th edition of the Sri Lanka Navy bi-annual Journal (SLNJ). This issue presents a diverse range of articles that dawn new perspectives and interests into the realm of maritime domain, national security and global affairs. Over the years, SLNJ has presented a platform for naval personnel to hone their writing skills and to train their thought processes. It is truly heartening to see the compilation of essays which reflect the growing enthusiasm among the Navy ranks. The increasing number of subscription requests attests SLNJ's acceptance for its standards.
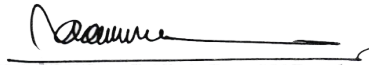
It is no doubt the Sri Lanka Navy is in a transformation phase. The existing local context and the more challenging global dynamics have shaken traditional schools of thoughts and beliefs. Battle spaces are ever shrinking and transiting from theater warfare to digital screens. The ever increasing advances in technology and artificial intelligence demand novel responses and forethought. Moreover, the maritime frontier is been contested among opposing alliances and strategic constructs, where the Indian Ocean Region (IOR) has become the fulcrum of power display. Many littoral states and especially Sri Lanka are not immune to such influences. Further, global financial market failures, recessions and civil wars have triggered wide scale disruption among societies and states giving way for a surge of maritime crimes that have ripple effects across continents. The recent experience in relation to maritime accidents in and adjacent to choke points and jurisdictions have exposed the fragility and vulnerability of existing SOPs, stakeholder relations, legal regimes, risk assessments and consensus. Weighting in the factor of anthropogenic climate change into the calculus of above challenges makes us realize our capability and capacity limitations. These are just a few. Thus, our future naval leaders are to be astute and acumen to these global realities and contexts for decisive decision making.

Hence, SLNJ provides space for aspiring future leaders to present their narratives, thesis, ideas and academic endeavours drawing more discussions and deliberations. In this aspect, the new edition of SLNJ features ten papers written by authors from different professional capacities. The topics range from foreign policy, maritime security, fishery protection, human resorces and maritime environment protection. Interestingly, the edition also includes a book

review and a case study. I also, appreciate the work of all the resource persons who had submitted manuscripts, though only ten papers have been accepted for publication. I congratulate all prospective wordsmiths of the selected essays and encourage budding talents to contribute their valuable insights in future publications.

I would like to express my sincere gratitude to the editorial board for their tireless efforts in bringing this publication to realization. The guidance and support provided by the editorial board and paper reviewers have been invaluable and have greatly contributed to the quality of the final product.

I hope this issue of SLNJ will provide valuable insights and stimulate discussion among maritime professionals. As always, we welcome your feedback and submissions for future issues.

UVMP PERERA, RSP**, USP, ndu, psc
Vice Admiral
Commander of the Navy

Message from the Editor-In-Chief

The editorial board of Sri Lanka Navy Journal (SLNJ) is proud to produce its 12th edition of publication. Over the last 11 editions of SLNJ we have been able to publish a number of articles of multidisciplinary, peer reviewed original research papers of naval researches ensuring with enhancement of intellectual capacity. I'm sure that 12th edition of the journal has also strived to contribute to the academic discourse in maritime domain, national security aspects and more broadly of global affairs.

SLNJ offers an ideal platform for naval researchers to present and discuss various matters, issues and phenomena in a wide range of disciplines whilst encouraging the aptitude for research. Without being limited by the traditional categorization of naval subjects, the journal encourages to present multidisciplinary research papers focusing to broaden mental faculties of naval personnel and readers of wider interests.

The topics covered in the journal include a collection of high quality research papers and a book review. It is my responsibility to mention that after screening plagiarism of all received manuscripts, a meticulous process of double blind peer review was followed to select the high quality research papers while maintaining high academic standards, academic ethics and academic integrity.

We wish to express our whole hearted gratitude to the Commander of the Navy for being our greatest inspiration and source of strength for this worthy cause. Especially, I congratulate all authors whose research papers are published in this issue whilst encouraging all other contributors who had submitted manuscripts, even those were not selected to publish in this issue. Further, I extend my heartfelt gratitude to the reviewers and members of the editorial board, who have worked extremely hard during the reviewing process of this Journal. Finally, I would like to thank the publication staff of Naval Printing Unit for their continued and substantial assistance for the successful launch of the journal in a timely manner.

As we always welcome constructive comments, suggestions and concerns, I invite the fraternity of naval officers and interested academia to join us, to work towards making the journal a truly informative publication.

Thank you.

CONTENTS

EXPLORING THE FACTORS CONTRIBUTING TO DESERTION AND ABSENTEEISM AMONG SRI LANKA NAVY PERSONNEL : A MIXED-METHODS STUDY

Lieutenant Commander Isuru Suriyabandara, BSc (Mgt), PGDip (D.M.), MBus (Finance)

Abstract

This study covers Sri Lankan Navy desertion and absenteeism reasons. Research questions focused personal, economical, organizational, job-related and absenteeism attitudes. The study uses Atlas thematic analysis, inferential statistics and other methods. Job satisfaction, inadequate income, the economy and mental freedom affect SLN sailors' absenteeism. Family and work routines also help to influence the absenteeism. The report suggests the Sri Lankan Navy address these issues to prevent absenteeism and desertion. Future research should investigate these traits and their effects on SLN staff.

Keywords: Sri Lanka Navy, desertion, absenteeism, Action Without Leave (AWL), organisational culture, job satisfaction.

Introduction

The SLN's military, diplomatic and constabulary roles protect the island nation's marine interests. Manpower is the most important part of the "force structure" for this, followed by military gear (Sri Lanka Navy, 2020). AWL, Run and desertion (permanent withdrawal without authorization) affect military workforce, discipline, leadership and morale (Tzeng, et al., 2016). The SLN has struggled with naval personnel absenteeism recently. The SLN's internal portal says 492 junior sailors deserted in 2020, 826 in 2021 and 2022, 857 in 2023. (Sri Lanka Navy, 2023). However, Senior sailors and officers are excluded from these figures.

A complete examination of what causes navy personnel to remain away without leave or desert is needed to understand these worrying trends. Low pay, poor working conditions, lack of recognition and family concerns have been linked to military desertion (Easterling, et al., 2016). Sri Lankan factors may vary. Thus, a study on Sri Lanka Navy personnel's motivations for desertion and absenteeism is needed. Then the set of Research questions are :

- What socioeconomic and personal factors contribute to SLN personnel desertion and absenteeism?

- How do organisational and job-related factors impact SLN personnel's decisions to desert or be absent?

- What is the relationship between SLN personal and socioeconomic factors and their attitudes towards absenteeism?

- Based on the study's findings, how can policies and strategies be developed to address the factors contributing to address SLN personnel desertion and absenteeism?

These research questions focus the study and guide data collecting and analysis. These questions will help explain SLN personnel desertion and absence and inspire successful policies and tactics.

Methodology

Research Design.   The methodology for the study on the reasons influencing Sri Lanka Navy deserters and absentees used a mixed-methods approach that includes both qualitative and quantitative data collection methods.

Participants.   This study will randomly choose Sri Lanka Navy sailors with and without absenteeism. Sample size is 129 at 0.05 statistical power (Saunders, et al., 2019). On 11 April 2023, the Sri Lanka Navy had 47,879 sailors, 695 Run, 80 AWL and 3650 deserted. 9.2% of sailors absent (Sri Lanka Navy, 2023). Increasing the sample size boosts statistical power and sample representativeness. Larger sample numbers improve estimate precision but are more expensive and time-consuming. The researcher sample 328 sailors with 3.12% marginal error.

Data Collection.   The data collection procedure consists of two phases. First, a survey was conducted to collect quantitative data on the factors contributing to desertion and absence. Second, interviews were performed with a subset of participants to collect qualitative information regarding their experiences and perspectives.

Based on the literature review and research objectives, the following conceptual frame work (Figure 1) was developed for the study:
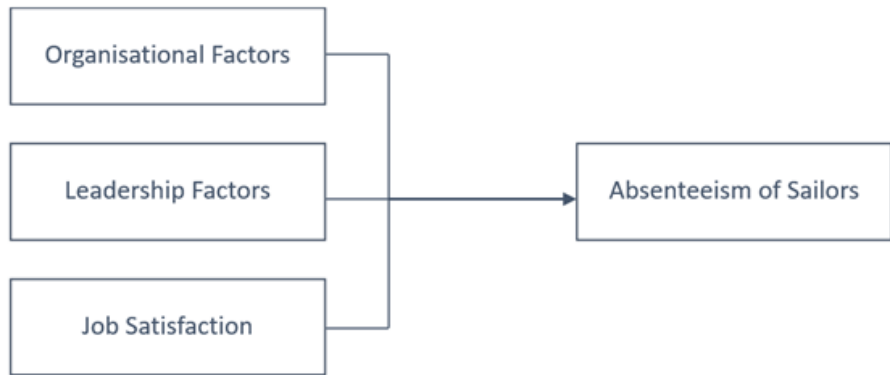
Figure 1: Conceptual Framework - Factors Contributing to Desertion and Absenteeism among SLN Personnel
Source: Developed by Author (2023)

Organizational factors (job security, professional development and organizational culture), leadership factors (organisational leadership, communication with superiors and performance feedback), job satisfaction (salary, workload and work environment) and sailor absenteeism were categorized into four variables (absenteeism, considering resignation).

Results

Data Cleaning and Preparation. Used verified data and checked missing numbers, outliers and the data entry problems. Also found no outliers or missing values. analyzed coded variables. Table 1 demonstrates varying response rates. All subjects responded all variables, so 328 valid responses. All variables had values.

Table 1: Test for Missing Values

		Job Security	Professional Development	Organisational Culture	Organisational Leadership	Communication with Superior	Performance Feedback	Salary	Workload	Work Environment	Absenteeism	Considering Resignation
N	Valid	328	328	328	328	328	328	328	328	328	328	328
	Missing	0	0	0	0	0	0	0	0	0	0	0

Source: Developed by Author using SPSS (2023)

The distribution of cases based on whether they were identified as the primary case or a duplicate is presented in Table 2. 242 of the total 328 cases were recognised as primary cases, representing 73.8% of the total number of cases.

In contrast, 86 cases were identified as duplicates, representing 26.2% of the total cases.

Table 2: Test for Duplicate Values

Indicator of each last matching case as Primary		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Duplicate Case	86	26.2	26.2	26.2
	Primary Case	242	73.8	73.8	100.0
	Total	328	100.0	100.0	

Source: Developed by Author using SPSS (2023)

Valid primary/duplicate percentage. The cumulative percentage displays consecutive cases. Random sampling kept redundant examples in the research. No outliers were found. Outliers, data points that differ considerably from the sample, might alter study outcomes. No outliers guarantee accurate data. The statistical analysis's results can be interpreted and used for decision-making.

Descriptive Statistics

Summary and description using mean, standard deviation, frequency distribution and cross-tabulation. Descriptive statistics finds patterns and insights (Table 3). Except for the absenteeism of sailors variable, which was scored 0–1, the study components were examined on 5-point Likert scales. Organizational factors received 324 valid responses, averaging 7.63 (SD = 2.18) on a 5-point Likert scale. 328 valid responses averaged 5.94 (SD = 2.14) on a 5-point likert scale for leadership factors. Job satisfaction averages 7.74 (SD=3.29) on a 5-point Likert scale with 328 valid responses. Sailor absenteeism had 328 valid responses, averaging 0.35 (SD = 0.51).

Except for sailor absenteeism, which was 0 or 1, variables were measured using likert scales from 1 to 5. Sailors preferred organizational and leadership factors and job satisfaction. Sailors had little absenteeism. Leadership, organizational and job satisfaction are dispersed. Most sailors had minimal absenteeism, per absenteeism of sailors variable. Four variables exhibit skewness and kurtosis between -2 and +2. Data were often shared (Saunders, et al., 2019).

Table 3: Descriptive Statistics

		Organisational Factors	Leadership Factors	Job Satisfaction	Absenteeism of Sailors
			Statistics		
N	Valid	328	328	328	328
	Missing	0	0	0	0
Mean		7.6311	5.9390	7.7439	.3537
Median		6.9583[a]	5.6609[a]	8.1233[a]	.3437[a]
Mode		6.00	4.00	3.00	.00
Std. Deviation		2.18303	2.14089	3.29140	.50977
Variance		4.766	4.583	10.833	.260
Skewness		.926	1.139	.121	.960
Std. Error of Skewness		.135	.135	.135	.135
Kurtosis		.883	1.540	-.837	-.324
Std. Error of Kurtosis		.268	.268	.268	.268
Range		12.00	12.00	12.00	2.00
Minimum		3.00	3.00	3.00	.00
Maximum		15.00	15.00	15.00	2.00

a. Calculated from grouped data.

Source: Developed by Author using SPSS (2023)

Inferential Statistics

T-tests and ANOVA determined the population. Inferential statistics tests hypotheses and compares groups. Organizational, leadership, job satisfaction and sailor absenteeism pearson correlations are shown in table 4. Pearson correlation coefficients (-1 to 1) measure linear relationships between variables. Variables rise together. Variables decrease when increased. 0 correlation.

Organizational factors improve job satisfaction (r = 0.611, p 0.001). Leadership positively connects with organizational factors (r =0.555, p 0.01) and job satisfaction (r=0.506). Job satisfaction reduces sailor absenteeism (r=0.382, p 0.01). Since these correlations don't imply causality, more research is needed to discover factor interactions. According to this association study, organizational factors, leadership and job satisfaction may affect sailors' absenteeism. Table 5 reveals spearman's rho relationships between organizational, leadership, job satisfaction and sailor absenteeism. Correlation coefficients are -1.000 to 1.000. The perfect correlations are 1.000, -1.000, and 0.

Table 4: Correlations

		Organisational Factors	Leadership Factors	Job Satisfaction	Absenteeism of Sailors
		Correlations			
Organisation al Factors	Pearson Correlation	1	.555**	.611**	.274**
	Sig. (2-tailed)		.000	.000	.000
	N	328	328	328	328
Leadership Factors	Pearson Correlation	.555**	1	.506**	.194**
	Sig. (2-tailed)	.000		.000	.000
	N	328	328	328	328
Job Satisfaction	Pearson Correlation	.611**	.506**	1	.382**
	Sig. (2-tailed)	.000	.000		.000
	N	328	328	328	328
Absenteeism of Sailors	Pearson Correlation	.274**	.194**	.382**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	328	328	328	328

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Developed by Author using SPSS (2023)

Organizational factors positively affect leadership factors, job satisfaction and sailor absenteeism. Leadership factors substantially enhance job satisfaction (r=0.489, p0.01) and somewhat improve sailor absenteeism (r=0.173). Sailor job satisfaction and absenteeism are strongly associated (r=0.412, p0.01). At the 0.01 level (2-tailed), all correlations are statistically significant. Leadership factors predict sailors' absence less than organizational and job satisfaction. Table 5 summarizes the regression model's fit. Job satisfaction, leadership and organizational factors explain 15% of sailors' absenteeism, according to the model's R square value of 0.149.

Table 5: Nonparametric Correlations

			Organisational Factors	Leadership Factors	Job Satisfaction	Absenteeism of Sailors
		Correlations				
Spearman's rho	Organisational Factors	Correlation Coefficient	1.000	.497**	.606**	.301**
		Sig. (2-tailed)	.	.000	.000	.000
		N	328	328	328	328
	Leadership Factors	Correlation Coefficient	.497**	1.000	.489**	.173**
		Sig. (2-tailed)	.000	.	.000	.002
		N	328	328	328	328
	Job Satisfaction	Correlation Coefficient	.606**	.489**	1.000	.412**
		Sig. (2-tailed)	.000	.000	.	.000
		N	328	328	328	328
	Absenteeism of Sailors	Correlation Coefficient	.301**	.173**	.412**	1.000
		Sig. (2-tailed)	.000	.002	.000	.
		N	328	328	328	328

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Developed by Author using SPSS (2023)

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.386a	.149	.141	.47240	.149	18.929	3	324	.000	1.668

a. Predictors: (Constant), Job Satisfaction, Leadership Factors, Organisational Factors
b. Dependent Variable: Absenteeism of Sailors

Source: Developed by Author using SPSS (2023)

At the significance level of 0.000, the F change value of 18.929 indicates that the overall model is statistically significant, indicating that at least one predictor variable is significantly related to sailor absenteeism. The Durbin-Watson value of 1.668 reveals no residual auto correlation, meeting the independence of mistakes assumption. In conclusion, the regression model using job satisfaction, leadership and organizational factors predicts 15% of sailor absenteeism. The model may miss several absenteeism variables.

Table 7 illustrates regression analysis ANOVA variation sources. Checks for zero regression coefficients (i.e., no relationship exists between the independent and dependent variables).

Table 7: ANOVA - Sources of Variation

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12.673	3	4.224	18.929	.000[b]
Residual	72.303	324	.223		
Total	84.976	327			
a. Dependent Variable: Absenteeism of Sailors					
b. Predictors: (Constant), Job Satisfaction, Leadership Factors, Organisational Factors					

Source: Developed by Author using SPSS (2023)

According to the table, the regression model is significant (p.001). Leadership, organizational and job satisfaction predict sailor absenteeism.

The regression sum of squares is 12,673, suggesting that the model explains 14.9% of dependent variable variation. Since the erroneous sum of squares (residuals) is 72,303, the model does not explain 85.1% of the dependent variable variation.

Table 8: Coefficients of the Regression

Coefficients[a]							
Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-.163	.099		-1.658	.098		
Organisational Factors	.017	.016	.075	1.076	.283	.546	1.832
Leadership Factors	-.006	.015	-.024	-.384	.702	.648	1.544
Job Satisfaction	.054	.010	.349	5.216	.000	.587	1.705
a. Dependent Variable: Absenteeism of Sailors							

Source: Developed by Author using SPSS (2023)

Table 8 provides regression coefficients. The "B" column displays unstandardized coefficients and estimated coefficient values for the independent components and dependent variable. "Standard Error" displays coefficient standard errors.

The "Beta" column gives standardised coefficients with a mean of 0 and a standard deviation of 1, allowing independent variable significance comparison.

The t-statistic evaluates correlation. If the null hypothesis (no correlation) is true, the significance level (Sig.) implies an extreme consequence.

Tolerance and VIF show independent variable multicollinearity. Multicollinearity increases regression coefficient variance. VIF measurements.

Only "job satisfaction" positively affects "absenteeism of sailors" in this model (beta coefficient 0.349, p-value 0.000). "organisational factors" and "leadership factors" independent variables have p-values over 0.05. Independent variables have low multicollinearity.

Thematic Analysis

Coding and categorizing data revealed trends in qualitative data analysis. Thematic analysis revealed participants' perspectives and experiences. Qualitative data analysis program Atlas was utilized.

A quantitative study of the causes of sailors' absenteeism is shown in Figure 2. Organizational characteristics, leadership factors, job satisfaction and sailors' absenteeism were categorized. The analysis shows each variable's coefficient and count.

		Current Econo… 14	Dignity 2	Draft/Tr… 3	Duty Pattern 9	Family Life 6	Insufficient… 30	Leave/Holi… 5	Mental Fre… 7	Work Abroad 9
Current Economic…	14		1 (0.07)	1 (0.06)	2 (0.10)	1 (0.05)	13 (0.42)		4 (0.24)	2 (0.10)
Dignity	2	1 (0.07)					2 (0.07)		1 (0.13)	
Draft/ Transfer	3	1 (0.06)				1 (0.13)	1 (0.03)	2 (0.33)		1 (0.09)
Duty Pattern	9	2 (0.10)				1 (0.07)	5 (0.15)	3 (0.27)	1 (0.07)	4 (0.29)
Family Life	6	1 (0.05)		1 (0.13)	1 (0.07)		4 (0.13)	1 (0.10)	1 (0.08)	2 (0.15)
Insufficient Salary	30	13 (0.42)	2 (0.07)	1 (0.03)	5 (0.15)	4 (0.13)		2 (0.06)	7 (0.23)	6 (0.18)
Leave/ Holiday	5			2 (0.33)	3 (0.27)	1 (0.10)	2 (0.06)			2 (0.17)
Mental Freedom	7	4 (0.24)	1 (0.13)		1 (0.07)	1 (0.08)	7 (0.23)			
Work Abroad	9	2 (0.10)		1 (0.09)	4 (0.29)	2 (0.15)	6 (0.18)	2 (0.17)		

Figure 2: Code Co-Occurrence Table
Source: Developed by Author using Atlas.ti (2023)

Insufficient salary caused the most absenteeism with a coefficient of 0.42. economic status (0.24 coefficient value) and mental freedom follow (0.23 coefficient value). The remaining job satisfaction measure coefficients were poor.

Duty pattern had the highest coefficient value of 0.29 in the organisational factors variable, followed by family life at 0.15. Draft/transfer had 0.09 and dignity 0.07. Work overseas was 0.10, while the economy was 0.06.

Sankey diagrams (Figure 4) show entity flows' magnitude. Atlas created the Sankey diagram. Interview-collected qualitative data revealed the links between themes (nodes) and their subthemes (flows between nodes).

Figure 1: Sankey Diagram
Source: Developed by Author using Atlas.ti (2023)

The table shows that interviewees discussed insufficient salary and the current economic situation most commonly. It also outlines each major theme's subthemes, underlining the respondents' worries and experiences. Job satisfaction and organizational factors influenced sailors' absenteeism the most. Job satisfaction is mainly affected by compensation, the economy and mental freedom. organizational factors are largely affected by duty patterns and family life.

Triangulation

Multiple methodologies verified the study's findings. Triangulation minimized bias and improved study credibility. Only job satisfaction favorably increases sailor absenteeism, according to SPSS and Atlas qualitative research. Organizational and leadership factors do not affect the dependent variable. Job satisfaction strongly positively correlates with sailor absenteeism in the SPSS model, with a beta coefficient of 0.349 and a p-value of 0.000. Organizational and leadership factors do not impact sailor absenteeism.

Job satisfaction and organizational factors strongly affect sailors' absenteeism, according to Atlas qualitative research. Insufficient income, the economy and mental freedom most effect job happiness, according to the qualitative survey. Responsibility and family life dominate organisational factors. Thus, while the SPSS model and qualitative analysis seem to contradict each other, variables like organizational factors, which were not statistically significant in the SPSS model, may nonetheless drive sailors' absence and desertion. Sailor absenteeism requires quantitative and qualitative analyses.

Discussion

This study found that personal and organizational factors significantly impact SLN worker absenteeism and desertion. The quantitative analysis shows that improving organizational elements can improve job satisfaction.

As shown in early studies by Fernando (2019) and Moorhead & Griffin (2019), job satisfaction is positively correlated with sailors' absenteeism. Improving job satisfaction may minimize absenteeism (1999).

Job satisfaction and organizational factors affect sailors' absenteeism, according to Atlas' qualitative investigation. Job satisfaction is mainly affected by compensation, the economy and mental freedom. Many studies have linked absenteeism to wages. Duty patterns and family life are the most important organisational factors variables. Based on these findings, policies and strategies can address the reasons for SLN worker desertion and absenteeism. Increasing income and mental flexibility can improve job happiness while changing duty patterns and supporting family life may improve organizational components.

The study found that leadership does not affect SLN sailors' desertion, unlike previous studies on other Sri Lankan security forces and other nations (Littlepage & Rappoport, 1977; Affandi, et al., 2019; De Silva, 2006).

Understand the study's limitations. First, only SLN personnel are studied. The results may not apply to other military or non-military organizations. Self-reported data may be skewed and erroneous, limiting the study. Finally, the study's cross-sectional methodology limits causation. Despite these limits, this study illuminates SLN employee desertion and absence. Future studies could use a longitudinal design and more diverse samples to further understand how personal and organizational factors affect job satisfaction and absenteeism.

This study suggests numerous ways to study SLN worker absentee-ism and desertion. This study's variables could be examined causally in future research. These interactions must be investigated. Longitudinal or experimental research could adjust these variables to examine their effect on absenteeism and desertion rates.

Second, future research could examine the effects of other factors not examined in this study. The study did not examine social support networks or the effects of training and professional development on absenteeism and desertion. More research may reveal how these and other factors affect SLN sailors' decisions to stay.

Thirdly, the study only considered SLN sailors' views. Future studies could cover other military services and professions with high absence and desertion rates. Comparing SLN sailors' experiences with those of other organizations may illuminate the factors that cause absenteeism and desertion.

The study was conducted in a specific setting. Thus, the findings may not apply to other militaries or nations. Future studies should examine how cultural , social and political factors affect absenteeism and desertion rates in diverse circumstances.

Conclusion

This study found that personal and organizational factors contribute to SLN worker absenteeism and desertion. The quantitative analysis shows that improving organizational elements can improve job satisfaction. The significantly positive relationship between job happiness and sailor absenteeism implies that boosting job satisfaction can minimize absenteeism.

Job satisfaction and organizational factors affect sailors' absenteeism, according to Atlas' qualitative investigation. Job satisfaction is primarily affected by low income, the economy and mental freedom. Organizational factors are largely affected by duty patterns and family life.

Based on these findings, policies and strategies can address the reasons of SLN worker desertion and absenteeism. Increasing compensation and mental freedom can improve job happiness, while changing responsibility patterns and supporting family life may improve organizational variables. Understand the study's limitations. First, only SLN personnel are studied. The results may not apply to other military or non-military organizations. Self-reported data may be skewed and erroneous, limiting the study. Finally, the study's cross-sectional methodology limits causation. Despite these limits, this study illuminates SLN employee desertion and absence. Future study could use a longitudinal design and more diverse samples to further understand how personal and organizational factors affect job satisfaction and absenteeism.

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PRESERVATION OF FISHERY RESOURCES

Lieutenant Commander Sampath Dasanayake

Introduction

Preservation of fishery resources is a critical issue that affects the ecological, economic and cultural well-being of millions of people worldwide. Fish provides a significant source of protein and is a vital source of livelihood for fishing communities. However, overfishing, pollution and habitat destruction have led to a decrease in fish population, threatening food security, biodiversity and cultural traditions. To ensure the sustainability of fishery resources, it is crucial to adopt measures that maintain healthy fish populations while considering the impact of fishing on ecosystems.

This essay will discuss the importance of preserving fishery resources and the measures that can be taken to achieve such sustainability. The first section will explore overfishing as a significant threat to fishery resources and its effects on fishing communities. The second section will focus on sustainable fishing practices as an essential aspect of preserving fishery resources. The third section will discuss the significance of regulation and management in maintaining healthy fish populations. The fourth section will highlight the importance of monitoring and research in identifying changes in fish populations and habitats. The fifth section will examine the role of conservation education in creating awareness about the sustainable use of fish resources. The final section will discuss the crucial role of international cooperation in preserving fishery resources, emphasizing the need for collaboration among countries to establish regulations and management practices that protect fish populations across borders.

Preserving fishery resources requires a multi-pronged approach that considers the needs of fishing communities, the environment and the economy. By adopting sustainable fishing practices, enforcing regulation and management policies, promoting conservation education and fostering international cooperation, we can safeguard the ecological, economic and cultural benefits of fishery resources for current and future generations.

Overfishing

Overfishing is a major threat to fishery resources worldwide and has significant consequences for the ecological, economic and cultural well-being of fishing communities. This practice occurs when fish are harvested faster than they can reproduce, leading to a decline in their populations. Overfishing is a significant problem worldwide, with some estimates indicating that up to 90%

of global fish stocks are exploited or overfished (WWF, 2022).

Overfishing can have severe impacts on fishing communities, which rely on fish as a source of income, food and cultural tradition. When fish populations decline, there are fewer fish to catch, leading to economic hardships for fishing communities. Overfishing also affects food security, with many people relying on fish as their primary source of protein.

In addition to economic and food security implications, overfishing can cause ecological consequences as it upsets the balance of marine ecosystems. Overfishing can alter predator-prey relationships and decrease biodiversity in the marine environment. Furthermore, larger fish, which are often the most valuable, become scarcer leading to more indiscriminate and wasteful fishing practices (Hilborn et al., 2020). The long-term consequences of overfishing can be severe and irreversible, leading to declining fish populations and the collapse of entire fisheries.

The effects of overfishing are particularly severe in developing countries where fish is a vital source of protein and income for many people. According to the Food and Agriculture Organization, over 60 million people are employed in the fishing sector, with many of them working in small-scale, artisanal fishing. However, overfishing threatens the livelihoods of these communities, who often lack alternative sources of income if their catch dwindles.

Additionally, overfishing can increase the risk of poverty and social conflict and affect the cultural traditions of fishing communities. For example, in many small island states where fish is a significant part of the culture and economy, overfishing can cause social disruption and negatively affect the capacity of local people to maintain their traditional way of living.

In conclusion, overfishing is a significant threat to fishery resources, resulting from harvesting fish faster than they can reproduce. The practice has severe consequences for fishing communities, the environment and the economy. Economic hardships, as well as food in security, can affect communities that rely on fish as a source of income and nutrition. The environmental impacts of overfishing can lead to cascading effects that alter marine ecosystems. Developing countries are particularly affected, where overfishing can exacerbate poverty, reduce cultural resilience and increase social conflicts. Measures must be taken, such as sustainable fishing practices and fisheries management, to ensure the sustainability of fishery resources and guarantee the continued well-being of fishing communities.

Sustainable Fishing Practices

Sustainable fishing practices are essential in preserving fishery resources. These practices aim to minimize harm to the environment and reduce by catch, which is the capture of non-target species. Sustainable fishing practices can help reduce unwanted catch while protecting the fishery resources and the wider ecosystem.

One of the key elements of sustainable fishing practices is responsible fishing. This involves the use of fishing gear, techniques and practices that target fish species in a controlled manner. Sustainable fishing practices recognize that fish populations have reproductive cycles and therefore, fishing must be done to allow these cycles to occur naturally.

To achieve sustainability, fishermen use various techniques, including handlines, traps and nets. These techniques are used because of their ability to separate target fish from non-target fish, which is crucial in reducing bycatch. Selective gear, such as fish traps and hook and line, allow fishermen to catch only the desired fish species, resulting in a more sustainable catch (Etim et al., 2019).

The use of fishing quotas and total allowable catches (TACs) is also a critical component of sustainable fishing practices. These policies limit the amount of fish that can be caught and ensure that fish populations have enough time to replenish themselves. The use of TACs also ensures that fish stocks do not dwindle or disappear altogether.

Sustainable fishing practices take into account the wider ecosystem and the impact that fishing can have on non-targeted species. Non-target species caught as bycatch are often discarded, leading to wastage and the death of large numbers of fish. This is particularly problematic for high-value, slow-growing species, which may live for many years before becoming sexually mature and reproducing.

To address the issue of bycatch, fishermen are encouraged to use mitigation measures, such as the use of modified fishing gear, to reduce incidental catch. These measures can include the use of turtle excluder devices on fishing nets, which allow turtles to escape while continuing to catch desired fish species.

Sustainable fishing practices also involve the use of closed areas where fishing is prohibited to allow for fish populations to recover. Such areas are known as marine protected areas (MPAs) and are established to protect vulnerable ecosystems and species. MPAs can provide valuable insight into the impact of fishing activities on fishery resources, providing data that can be used to make informed fishing management decisions (NOAA, 2022).

In conclusion, sustainable fishing practices are an essential aspect of preserving fishery resources. They minimize harm to the environment, reduce bycatch and protect non-target species, leading to healthier fish populations. Sustainable practices recognize the importance of responsible fishing, limiting catch and the need for closed areas to allow for the recovery of fish populations. Implementing sustainable fishing practices is essential, not only to protect fishery resources but also to ensure the continued livelihoods of fishing communities that depend on these resources.

Significance of Regulation and Management in Maintaining Healthy Fish Populations

Regulation and management are critical aspects of preserving fishery resources. Governments can set limits on the number of fish that can be caught, implement seasonal fishing closures, or establish no-take zones where fishing is prohibited. These measures can help maintain healthy fish populations by allowing them time to reproduce and grow.

The regulation of commercial fishing activities is essential to prevent overfishing and the depletion of fish stocks. Overfishing can lead to the collapse of fisheries, causing economic hardship and affecting social and cultural values for fishing communities that rely on them. Regulation and management ensure that fish stocks are conserved and that the fishing industry remains sustainable.

Governments can use various tools to regulate fishing activities, including fishing quotas, minimum fish sizes and gear restrictions. Fishing quotas and total allowable catches are some of the primary management measures employed by many countries to ensure sustainable fishing practices. These limits prevent overfishing by controlling the number of fish that can be caught and allow fish stocks to replenish and recover.

Fishing gear restrictions are another method used in regulating fishing activities. Gear restrictions can include the use of specific fishing gear, which can reduce the amount of bycatch. Governments can also restrict the number of fishing licenses issued, leading to the effective regulation of the number of fishing boats operating in an area, thereby reducing fishing pressure.

Seasonal fishing closures, an additional regulation technique, can provide fish populations with time to grow, reproduce and restock. The introduction of seasonal closures in areas where fish stocks are struggling has shown good results as fish populations increase within a short time. Seasonal closures can also limit the impact of fishing on vulnerable species and ecosystems.

Establishment of no-take zones or marine protected areas is crucial in regulating fishing activities. Marine protected areas are established in areas

where fish populations are under threat, or important habitats are vulnerable to overfishing. MPAs can provide valuable insight into the impact of fishing activities on fishery resources and can provide data that can be used to make informed fishing management decisions.

In addition, management measures such as closed seasons, gear restrictions and quotas provide valuable scientific data during the assessment of fish population, which will inform fisheries policy and management strategies.

The Importance of Monitoring and Research in Identifying Changes in Fish Populations and Habitats

Monitoring and research are vital in preserving fishery resources. Regular monitoring can help identify changes in fish populations and habitats. This information can be used to make informed decisions about regulating fishing activities, setting seasonal closures and establishing marine protected areas (MPAs) to protect vulnerable ecosystems and species. Monitoring and research can also help determine the effectiveness of management measures and make adjustments as required.

Monitoring and research are conducted to assess the status of fish stocks, the impact of fishing activities and the effectiveness of management measures. These activities provide valuable information that can inform policymakers, fishery managers and fishermen of changes in fish populations and habitats.

To monitor fish stocks, researchers use several methods, including observation of commercial and traditional fisheries, stock assessments and tagging programs. Stock assessments involve the collection of data on fish populations using surveys and statistical assessments to estimate population size and fishery status. Tagging programs involve tagging fish with markers, allowing scientists to track their movements and study their behavior.

Researchers also monitor the effects of fishing activities on the wider ecosystem, including bycatch, which is the capture of non-targeted species. Researchers collect data on the number and species of bycatch, which helps inform the development of mitigation measures that reduce wastage and unwanted catch.

Research plays a vital role in identifying the causes of changes in fish populations. Studies have shown that changes in climate, pollution, habitat loss and overfishing can all contribute to the decline of fish populations. Research helps identify these factors and provides important information on how to manage fish populations effectively.

Monitoring and research can also help determine the effectiveness of

management measures. Data from monitoring programs can inform managers of the progress and impact of measures such as fishing quotas, gear protocols and closed areas. These measures can then be adjusted to ensure they remain effective in meeting management goals.

In addition to monitoring fish populations, researchers also focus on the habitat characteristics that are essential for fish populations. Changes in habitat and water quality can have a severe impact on marine life, leading to a loss in biodiversity and the collapse of ecosystems. Research is used to identify these changes, assess their impact and develop measures to protect and conserve essential habitats.

One of the key initiatives in monitoring and research is the use of electronic monitoring systems to monitor fishing activities. Today, advancements in technology have led to the use of electronic monitoring systems that provide real-time information on vessel location, catch composition and fishing activity in general. As a result, there has been an increased focus on using these systems to inform harvest decisions and monitor compliance with regulations.

In conclusion, monitoring and research are vital components of preserving fishery resources. Regular monitoring provides insights into changes in fish populations and habitats and it informs policy and management decisions. Research helps identify the factors that contribute to changes in fish populations, assesses the effectiveness of management measures and develops methods to protect and conserve essential habitats. By adopting effective monitoring and research methods, it is possible to maintain healthy fish populations, protect biodiversity and ensure the sustainability of fishery resources.

The Role of Conservation and Creating Awareness about the Sustainable Use of Fish Resources

Conservation education plays a critical role in creating awareness about the sustainable use of fish resources. Education campaigns and outreach programs are essential for raising public understanding of the impacts of overfishing, habitat destruction and pollution on marine ecosystems and fish populations. Education can help individuals and communities make more informed choices that support sustainable fishing and conserve fish resources for future generations.

Conservation education aims to promote sustainability through public education and awareness-raising programs. The goals of these campaigns include informing the public about sustainable fishing practices, generating public support for conservation policies and regulations and increasing awareness of the importance of fish resources to the wider ecosystem and human society.

Conservation education efforts can be aimed at a variety of audiences, including schoolchildren, fishermen, consumers and policymakers. School-based education programs can help young people develop an understanding of the impacts of fishing activities and the importance of sustainable practices. These programs can engage students in experiential learning activities such as science experiments, field trips and community service projects, allowing them to develop a deeper appreciation for the link between human actions and their impact on the environment.

Consumer education is also essential, particularly in developed countries, where fish is a commonly consumed food item. Educating consumers on issues related to sustainability, such as the environmental impact of different fishing methods, can help them make more informed choices when purchasing fish. Certification schemes such as the Marine Stewardship Council (MSC), which verifies sustainable fisheries and products, can also be used to inform and guide consumer choices.

Education aimed at fishermen and other stakeholders in the fishing industry is vital in changing behaviour towards sustainable fishing. Such programs can provide information on sustainable fishing methods, best practices and the benefits of sustainable fishing to communities and the environment. This information ensures that fishermen are equipped with the knowledge needed to adopt sustainable fishing practices and conserve fish resources over the long period of time.

Policy education is also critical in creating long-lasting change. Governments can provide education and awareness to policymakers on the importance of sustainable fishing practices, including compliance with fisheries regulations and the development of policies that promote sustainable fishing. By doing so, policymakers can generate policies that protect fish populations and foster sustainable practices, thereby promoting the long-term protection of fish resources.

Finally, conservation education can help raise awareness of the importance of protecting fish habitats and the wider ecosystem in which fish populations thrive. Water conservation campaigns such as community clean-up events, habitat restoration projects and educational exhibits on fish habitat conservation can generate support for conservation efforts that benefit the ecosystem and the wider community.

In conclusion, conservation education plays a significant role in creating awareness about the sustainable use of fish resources. It can inform and inspire individuals to make more informed choices regarding the fishing industry. Through education and awareness campaigns, sustainable fishing practices can be promoted to fishermen, consumers, policymakers and other stakeholders in the fishing industry. Conservation education can also facilitate and support

habitat conservation efforts, which can improve the health of marine ecosystems. By promoting sustainable fishing practices, conservation education can ensure that fish resources are conserved and their benefits enjoyed for generations to come.

Crucial Role of International Cooperation with Fishery Organizations of Sri Lanka to Preserve the Fishery Resources

International cooperation and collaboration are crucial in preserving fishery resources, especially in Sri Lanka, where fishing is an essential economic activity. The establishment of international regulations and management practices is necessary to ensure the continued sustainability of fish populations across borders. Collaborative agreements and the involvement of Sri Lankan fishery organizations can provide a platform for joint action to protect fishery resources.

International cooperation is essential for the Regional Fisheries Management Organizations (RFMOs). These organizations are established to manage fisheries in specific regions and work together to promote sustainability and responsible fishing practices. The RFMOs monitor fishing activities in a particular region to ensure that fish stocks are not over-exploited and that catch limits are observed. This cooperative approach has been successful in protecting fish populations and ensuring the sustainability of fisheries.

International cooperation and collaboration among fishery organizations are also instrumental in ensuring the protection of threatened and endangered species. For example, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement to protect threatened animal and plant species, including those caught in fishing activities. CITES regulates the international trade in these species and international agreements such as this are essential to preserve and protect vulnerable species.

In conclusion, international cooperation and collaboration among fishery organizations, such as the IOTC and the Food and Agriculture Organization, are crucial for preserving fishery resources and ensuring the sustainability of the fishing industry. Sri Lanka recognizes that cooperation on a global level is necessary to promote sustainable fishing practices, conserve fish populations and protect critical habitats. Strengthening international cooperation and implementing sustainable fishing practices can help ensure the continued health of fishery resources and contribute to global food security.

Role of the Sri Lanka Navy and Sri Lanka Coast Guard

The Sri Lanka Navy and the Sri Lanka Coast Guard are instrumental in the preservation of fishery resources in Sri Lanka. They play a critical role in

enforcing fishing regulations, ensuring that fishing activities are conducted in a sustainable manner and conserving fish populations.

The Sri Lanka Navy maintains a presence in Sri Lanka's waters and has the task of monitoring and intercepting illegal fishing activities. The Navy has conducted several operations in collaboration with the Department of Fisheries and other organizations to prevent the use of illegal fishing practices such as dynamiting and poisoning to catch fish. They also ensure fishermen adhere to fishing regulations and that fishing boats are of a standard that does not endanger the lives of fishermen.

The Sri Lanka Coast Guard takes a proactive role in fishery resource conservation as part of their environmental policing duties. The Coast Guard has been instrumental in enforcing fishing regulations, ensuring that fishing activities are conducted within legal limits and compliance with fishing gear regulations. The Coast Guard has also engaged in activities to reduce plastic pollution and oil spills in the sea, which can have severe impacts on marine life and their habitats.

Both the Sri Lanka Navy and Sri Lanka Coast Guard also support conservation efforts to protect vulnerable marine species and their habitats. Both organizations participate in shoreline clean-up campaigns, supporting coral replanting initiatives and educational campaigns to promote conservation practices.

In addition to their environmental roles, the Sri Lanka Navy and Sri Lanka Coast Guard are essential in ensuring the security of Sri Lankan waters. They protect the country's marine resources from illegal poaching by foreign fishing boats, which can have a detrimental impact on fishery resources. The presence of the Navy and Coast Guard in Sri Lankan waters ensures that fishery resources remain under the control of Sri Lankan authorities and are not poached or exploited by foreign fishing boats.

In conclusion, the Sri Lanka Navy and Sri Lanka Coast Guard play a crucial role in the preservation of fishery resources in Sri Lanka. They enforce fishing regulations, protect vulnerable species and habitats and ensure the sustainability of fish populations through sustainable fishing practices.

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UNRAVELING THE DYNAMICS OF THE
INDIAN OCEAN REGION

Lieutenant Kithranga Peramunearachchi

Abstract

This document gives an idea about how the Indian Ocean region feeds it's nations from the ancient era. Also this article gives an introduction about the importance of Indian Ocean region, Maritime Silk Route & Chinese domain in IOR. This is a discussion of the influence of United States of America and how Indians' reaction against as a giant in Indian Ocean Region.

Introduction

The Indian Ocean Region (IOR) is a vast maritime expanse that spans from the African coast to the shores of Southeast Asia and Australia, and has long been recognized as a region of strategic importance. The IOR is home to a diverse array of countries, cultures and economies and is characterized by a complex interplay of historical, geopolitical, economic and cultural factors that shape its dynamics.

The IOR has a rich history of maritime trade, cultural exchanges and geopolitical rivalries that date back centuries. It has been a conduit for maritime trade between East Asia, Southeast Asia, South Asia, the Middle East and Africa, serving as a hub for cultural diffusion, technological exchange and economic development. The Maritime Silk Route, a historical trade network that linked these regions, has played a crucial role in shaping the economic, cultural and geopolitical dynamics of the IOR.

In recent times, the IOR has gained global attention due to its strategic location, natural resources and trade routes. Major global powers, including the United States and China, have sought to exert their influence in the region as part of their strategic calculations. The United States has maintained a significant military presence in the IOR through its naval assets and strategic partnerships with countries in the region, while China has pursued its Belt and Road Initiative, a massive infrastructure development project that includes key ports and economic corridors in the IOR.

China's growing presence in the IOR has raised concerns among other countries in the region, as it has implications for regional security, economic competition and geopolitical balance. China's investments in ports, infrastructure and economic projects in the IOR have been seen as part of its broader efforts to expand its influence and secure its strategic interests in the region.

India, as a prominent regional power with historical, cultural and economic ties to the IOR, has also been actively engaged in the region. India's engagement in the IOR is driven by its maritime tradition, defense and security cooperation, economic interests, diplomatic engagements, humanitarian assistance and soft power efforts. India has sought to promote regional stability, security and cooperation through its "Security and Growth for All in the Region" (SAGAR) doctrine, which emphasizes inclusive and cooperative approaches in the IOR.

Furthermore, the IOR is also characterized by various regional and sub-regional organizations, such as the Indian Ocean Rim Association (IORA), the Bay of Bengal Initiative for Multi-Sectorial Technical and Economic Cooperation (BIMSTEC) and the Indian Ocean Naval Symposium (IONS), which serve as platforms for regional cooperation, dialogue and coordination on various issues of common interest.

Understanding the dynamics of the IOR requires a comprehensive analysis of various factors, including historical, geopolitical, economic and cultural aspects. The evolving geopolitical landscape, economic opportunities and challenges, regional rivalries and power dynamics in the IOR have significant implications for global politics, trade and security. Scholars, policymakers and stakeholders need to closely monitor and analyze the developments in the IOR to navigate the complexities and opportunities of this strategically significant region.

In conclusion, the Indian Ocean Region is a complex and dynamic area with historical, geopolitical, economic and cultural factors that shape its dynamics. The Maritime Silk Route, the influence of global powers such as the United States and China, India's active engagement and the presence of regional organizations are key aspects of the IOR. Understanding the nuances and complexities of the IOR is crucial for comprehending the evolving geopolitical landscape of the region, and for formulating informed policies that promote regional stability, cooperation, and development. Continued analysis and monitoring of the dynamics of the IOR will be essential for stakeholders to navigate the challenges and opportunities in this strategically important region.

Importance of Indian Ocean Region

The Indian Ocean Region holds immense importance in terms of its strategic location, economic resources, geostrategic interests, maritime security, climate change, environmental concerns and cultural and historical significance. It requires collaborative efforts among nations to ensure sustainable development, maritime security and peace and stability in the region, which would have a significant impact on global politics, economy and environment.

The Indian Ocean Region (IOR) holds significant importance for various reasons. The IOR is strategically located between major global powers, such as India, China, Australia and Africa. It serves as a crucial maritime trade route for international trade, with more than 80% of global seaborne trade passing through it. It also connects the Middle East, Europe and Asia, making it a vital region for energy transportation. The IOR is rich in natural resources, including oil, natural gas, minerals and fisheries, which contribute to the global economy. The region also hosts important shipping ports, such as the Strait of Hormuz, the Bab-el-Mandeb Strait and the Malacca Strait, which are critical chokepoints for international trade and energy flows. Several countries have vested geostrategic interests in the IOR due to its geopolitical significance. India, China, the United States and other major powers have increased their presence in the region to safeguard their national interests, including securing their trade routes, ensuring energy security and maintaining influence over regional politics.The IOR faces various security challenges, including piracy, terrorism, illegal fishing and maritime disputes, which can have regional and global ramifications. Collaborative efforts among nations in the region are essential to address these security threats effectively and maintain peace and stability in the area.

IOR is highly vulnerable to the impacts of climate change, such as rising sea levels, extreme weather events and loss of marine biodiversity. Addressing environmental concerns and promoting sustainable practices in the IOR are crucial for protecting the livelihoods of millions of people who depend on the ocean for their sustenance. The IOR is home to diverse cultures, traditions and historical civilizations, including India, Sri Lanka, Maldives and East Africa. The region has a rich maritime heritage and cultural exchange dating back to ancient times, which contributes to its cultural and historical significance.

Maritime Silk Road

The Maritime silk route, also known as the "Maritime Silk Road" or the "21st Century Maritime Silk Road", is a concept that refers to a network of historical and modern maritime trade routes connecting countries and regions around the Indian Ocean and the South China Sea. It has been an important trade route for centuries, facilitating cultural exchange, economic cooperation and geopolitical interactions among countries in the region. The Maritime Silk Route has its roots in the ancient maritime trade routes that were established during the Han Dynasty of China (206 BC - 220 AD) and later expanded during the Tang Dynasty (618-907 AD). These routes connected China with Southeast Asia, South Asia, the Middle East and East Africa, fostering trade in goods such as silk, spices, precious metals and other valuable commodities.

In recent years, the concept of the Maritime Silk Route has been revived by the Chinese government as part of its foreign policy and economic strategy to strengthen trade and economic ties with countries in the region. In 2013,

Chinese President Xi Jinping proposed the Belt and Road Initiative (BRI), which includes the development of the "21st Century Maritime Silk Road" as a key component. The modern Maritime Silk Route under the BRI aims to promote infrastructure development, trade and investment, financial cooperation and cultural exchanges among countries in the region.

Strategic Implications of Maritime Silk Route

- **Economic Connectivity.** The Maritime Silk Route has the potential to boost economic growth, trade and investment among participating countries by improving maritime infrastructure, connectivity and logistics. It could create new economic opportunities, promote regional integration and foster economic development in less-developed regions along the route.

- **Geopolitical Influence.** The Maritime Silk Route could enhance China's geopolitical influence in the region by strengthening its economic, diplomatic and cultural ties with countries along the route. It could also contribute to shaping regional dynamics and power relations among countries in the Indian Ocean and the South China Sea.

- **Maritime Security.** Ensuring maritime security and stability along the Maritime Silk Route is crucial for the safe and smooth flow of goods, services and people. Collaborative efforts among countries in the region are required to address maritime security challenges, such as piracy, illegal fishing and other maritime crimes.

- **Environmental Sustainability.** The development of the Maritime Silk Route should take into consideration environmental sustainability and promote responsible and sustainable practices to protect the marine environment, fisheries and coastal communities in the region.

- **Cultural Exchange.** The Maritime Silk Route can facilitate cultural exchange and understanding among countries with diverse cultures, traditions and histories. This can promote people-to-people exchanges, mutual understanding, and cooperation in areas such as education, tourism and cultural heritage preservation.

The concept of the Maritime Silk Route has historical significance and holds potential for promoting economic connectivity, geopolitical influence, maritime security, environmental sustainability and cultural exchange among countries in the region. It is an evolving concept that requires collaborative efforts and responsible development to achieve its objectives of fostering regional cooperation and development.

US Influence in Indian Ocean Region

The United States maintains a significant presence and influence in the Indian Ocean region due to its geopolitical, defense, economic, diplomatic, humanitarian and soft power interests. The U.S. engagement in the IOR is multifaceted and aimed at promoting regional stability, security, economic growth and cultural understanding. The United States has maintained a significant presence and influence in the Indian Ocean region (IOR) due to several factors:

- **Geopolitical Interests.** The IOR is strategically important for the United States due to its geopolitical interests in the region. The U.S. seeks to protect its national security interests, maintain regional stability and safeguard its economic and energy interests in the IOR, including securing key sea lines of communication (SLOCs) for international trade and energy transportation.

- **Defense Cooperation.** The U.S. has developed defense partnerships and cooperation with countries in the IOR to promote regional security and enhance its military presence in the region. This includes military alliances, security agreements, joint exercises and defense trade with countries such as India, Australia and other nations in the region.

- **Counterterrorism and Maritime Security.** The U.S. has been engaged in counterterrorism efforts in the IOR, including operations against piracy, maritime crime and terrorist organizations such as Al-Qaeda and ISIS. The U.S. Navy and other security agencies conduct patrols, intelligence gathering and capacity-building efforts to promote maritime security and counter transnational threats.

- **Economic Engagement.** The U.S. has economic interests in the IOR, including trade, investment and energy resources. The IOR is a vital maritime trade route for the U.S. and its allies, with more than one-third of global maritime trade passing through the region. The U.S. also engages in economic partnerships, development initiatives and trade agreements with countries in the IOR to promote economic growth and prosperity.

- **Diplomatic Engagement.** The U.S. engages in diplomatic efforts to promote regional cooperation, stability and conflict resolution in the IOR. This includes diplomatic dialogues, bilateral and multilateral engagements and participation in regional forums such as the Indian Ocean Rim Association (IORA) and the Indian Ocean Naval Symposium (IONS).

- **Humanitarian Assistance and Disaster Relief.** The U.S. has provided humanitarian assistance and disaster relief in the IOR during times of crises, including natural disasters, humanitarian emergencies and other contingencies. This contributes to building goodwill and strengthening relationships with countries in the region.

• **Soft Power and Cultural Engagement.**   The U.S. also engages in cultural diplomacy, educational exchanges and people-to-people interactions with countries in the IOR to promote mutual understanding, cooperation and goodwill. U.S. educational and cultural programs, such as the Fulbright Program, promote academic and cultural exchanges in the region.

China Influence in Indian Ocean Region

China's increasing influence in the IOR has raised concerns among other countries in the region and beyond, including India, the United States and other major powers. These concerns revolve around issues such as strategic competition, maritime security, debt sustainability, environmental impact and potential geopolitical implications. The dynamics of China's influence in the IOR are complex and are closely monitored by various stakeholders in the region. China has been increasing its influence in the Indian Ocean Region (IOR) through various means, including:

• **Belt and Road Initiative(BRI).**   China's ambitious BRI aims to boost its economic connectivity and infrastructure development in countries across the IOR, including ports, roads, railways and other projects. This has allowed China to gain economic leverage and influence in the region, as well as expand its trade routes and access to resources.

• **Port Development.**   China has invested in or acquired stakes in several ports in the IOR, such as Gwadar Port in Pakistan, Hambantota Port in Sri Lanka and Djibouti Port in Africa. These ports provide China with strategic footholds and military advantages and also serve as hubs for its economic activities and trade in the region.

• **Maritime Silk Road.**   China has proposed the Maritime Silk Road as part of its BRI, which aims to enhance maritime connectivity and cooperation among countries in the IOR. This includes promoting infrastructure development, maritime trade and economic ties, which contribute to China's influence in the region.

• **Economic Cooperation.**   China engages in economic cooperation and investment in the IOR through bilateral and multilateral channels. This includes trade agreements, investment deals and financial assistance to countries in the region, which can enhance China's economic influence and presence.

• **Naval Presence.**   China has been expanding its naval presence in the IOR through its People's Liberation Army Navy (PLAN) deployments, including anti-piracy patrols, naval exercises and port visits. This has allowed China to project its military power and influence in the region, potentially impacting the strategic balance and security dynamics in the IOR.

- **Diplomatic Engagements.**   China actively engages in diplomatic efforts in the IOR, including bilateral and multilateral dialogues, participation in regional forums such as the Shanghai Cooperation Organization (SCO) and diplomatic exchanges with countries in the region. This contributes to China's diplomatic influence and outreach in the IOR.

- **Energy Security.**   China's growing energy needs have led it to invest in oil and gas exploration, production and transportation infrastructure in the IOR, including in countries such as Iran and Myanmar. This enhances China's energy security and economic interests in the region, providing it with leverage and influence.

Indian Influence in Indian Ocean Region

India's historical, cultural, geographical, economic and diplomatic ties have contributed to its influence in the Indian Ocean region. India's engagement in the IOR is aimed at promoting regional security, stability, economic growth and cultural understanding and it plays an important role as a regional power in the region.

India has historical, cultural and geographical ties to the Indian Ocean region (IOR), which has resulted in its influence in the region through various means, including:

- **Historical and Cultural Ties.**   India has a long history of cultural and trade links with countries in the IOR, including Southeast Asia, the Middle East and Africa. Indian culture, religion, language and traditions have influenced and continue to shape the social fabric of the IOR countries, contributing to India's cultural influence in the region.

- **Maritime Tradition.**   India has a strong maritime tradition and has been a major player in the Indian Ocean for centuries. Indian sailors, traders and explorers have navigated the waters of the IOR, establishing trade routes, cultural contacts and diplomatic relations with countries in the region. This maritime heritage has contributed to India's influence and presence in the IOR.

- **Defense and Security Cooperation.**   India maintains defense and security cooperation with countries in the IOR to promote regional security, stability and cooperation. This includes military-to-military engagements, joint exercises, defense partnerships and capacity-building efforts aimed at enhancing maritime security and counterterrorism cooperation in the region.

- **Economic Engagement.**   India has significant economic interests in the IOR, including trade, investment and energy resources. The IOR is a critical maritime trade route for India, with a large portion of its

trade passing through the region. India also engages in economic partnerships, development initiatives and trade agreements with countries in the IOR to promote economic growth and prosperity.

• **Diplomatic Engagements.**   India actively engages in diplomatic efforts in the IOR through bilateral and multilateral dialogues, participation in regional forums such as the Indian Ocean Rim Association (IORA), and diplomatic exchanges with countries in the region. India's diplomatic engagements aim to promote regional cooperation, stability and mutual understanding among IOR countries.

• **Humanitarian Assistance and Disaster Relief.**   India has been providing humanitarian assistance and disaster relief in the IOR during times of crises, including natural disasters, humanitarian emergencies and other contingencies. India's efforts in providing humanitarian assistance and disaster relief contribute to its goodwill and influence in the region.

• **Soft Power and Cultural Diplomacy.**   India promotes its soft power and cultural diplomacy in the IOR through various means, including educational and cultural exchanges, people-to-people interactions and showcasing its rich cultural heritage. This enhances India's cultural influence and fosters mutual understanding and cooperation among IOR countries.

Conclusion

The Indian Ocean Region (IOR) is a complex and strategically important area that encompasses diverse countries, cultures and interests. The historical significance of the Maritime Silk Route, along with the contemporary influence of major global powers like the United States and China and India's active engagement in the region, make the dynamics of the IOR multi-faceted and dynamic.

The IOR's geopolitical significance, economic potential and natural resources have drawn the attention of various countries seeking to extend their influence in the region. The United States and China, in particular, have been actively involved in the IOR through diplomatic, economic and military engagements, aiming to secure their strategic interests.

India, as a regional power, has historical, cultural and economic ties to the IOR and has been actively engaged in the region through defense and security cooperation, economic partnerships, diplomatic engagements and humanitarian assistance. India's role in the IOR is shaped by its maritime tradition, cultural diplomacy and pursuit of regional stability, security and cooperation.

Understanding the dynamics of the IOR and the various actors involved is crucial for comprehending the complex geopolitical landscape of the region. Further analysis and continued monitoring of the evolving dynamics in the IOR

will be essential for policymakers, scholars and stakeholders to navigate the complexities and opportunities of this strategically significant region in years to come.

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HOW PROPOSED KRA CANAL WILL BE EFFECTED FOR MARITIME HIGHWAY IN FUTURE

Lieutenant (L) Shamika Abeydeera

Introduction

The concept of a maritime highway has long been envisioned as a strategic and efficient trade route connecting the major economies of Asia and beyond. One proposed project that has captured significant attention is the construction of the Kra Canal in Thailand. The canal would provide a shortcut between the Andaman Sea and the Gulf of Thailand, potentially revolutionizing global maritime trade. This essay explores the potential effects of the proposed Kra Canal on the maritime highway in the future. Proposed Kra Canal also known as the Thai canal or Kra Isthmus Canal, is a proposed artificial waterway that would traverse the Kra Isthmus in southern Thailand. The canal would connect the Andaman Sea in the west with the Gulf of Thailand in the east, providing a shortcut for ships bypassing the lengthy journey around the Malay Peninsula. The concept of the Kra Canal has been discussed for centuries, but it has gained renewed attention in recent years due to advances in technology and evolving global trade patterns. Potential benefits of the Kra Canal are shorter and safer route. The primary advantage of the Kra Canal is the significant reduction in travel distance and time for ships traversing the region. By avoiding the congested and piracy-prone Strait of Malacca, vessels could save days or even weeks in transit, leading to reduced fuel consumption, lower transportation costs and enhanced operational efficiency. The kra canal could serve as a vital link in a global maritime network, facilitating trade flows between the Indian Ocean and the Pacific Ocean. It would enhance connectivity among major ports in Asia, providing a direct route for goods and raw materials. This would promote regional economic integration, attract foreign investments and potentially lead to the emergence of new economic zones along the canal's route. The construction of the Kra Canal would alleviate the heavy traffic and congestion currently experienced in the Strait of Malacca, which is one of the busiest shipping lanes in the world. By diverting a significant portion of shipping traffic to the new canal, it would reduce the risk of accidents, environmental pollution and disruptions caused by piracy or territorial disputes. The construction of the Kra Canal would have substantial environmental consequences. It would involve dredging and excavation, altering coastal ecosystems and potentially causing habitat destruction and water pollution. Proper environmental impact assessments and mitigation strategies would be essential to minimize the negative effects on marine biodiversity and coastal communities. The Kra Canal is ambitious and costly infrastructure project. Estimates suggest that it could require billions of dollars in investment. Financing the canal's construction and subsequent maintenance would be a significant challenge. Additionally, the complex engineering and geo-

technical aspects of building a canal in the Kra Isthmus, which is prone to earthquakes and geological instability, would require careful planning and technical expertise. The construction of the Kra Canal would have geopolitical implications, potentially altering the balance of power in the region. It could impact the influence and strategic interests of countries situated along the existing trade routes, particularly Malaysia and Singapore, which rely on the Strait of Malacca for their economic growth. Balancing the interests of various stakeholders and managing potential conflicts would be crucial.

.   Indian Ocean region and the vast landscape situated encircling the ocean are considered to be one of the world's prominent hubs for sea trade since the bygone era. The Straits of Malacca is one of the busiest sea routes in the world. The 70 km-wide straits had significant traffic. There have been many plans to bypass the straits since the 17th century by constructing a canal through the Kra Isthmus in Thailand. The latest revival of the plan is associated with China's grand development initiative known as "One Belt, One Road."

Through the excavation of the Kra Isthmus in southern Thailand, the Kra Canal project aims to build a canal that will connect the South China Sea and the Andaman Sea. Although the isthmus is just 44 km wide at its narrowest point, there are numerous route proposals to avoid steep terrain and reduce excavation expenses. The marine path between the South China marine and the Andaman Sea is anticipated to be significantly shorter by the Kra Canal. There are alternatives to the proposed excavation because the costs of excavation across the isthmus are substantial. One idea is to build a "land bridge" across the isthmus, which would connect two ports on the South China Sea and the Andaman Sea with a road or railroad. Another strategy is to build a pipeline in northern Malaysia to replace the numerous oil tankers that currently navigate the congested Straits of Malacca.

The Scenario

In this article, author conduct simulation evaluations of the construction of the Kra Canal and create the following three scenarios:

Scenario 1: The Kra Canal and the Straits of Malacca Coexist

In this case, there are two things to keep in mind. First, there is no assumption of a network effect; instead, the optimal shipping route between origin and destination is simply established by taking into account the fixed time and financial expenses of each shipping lane. Second, the port at the center of the canal is solely used for transshipment; no goods can be imported or exported from Thailand through this port. (D.A. Hettiarachchi 2022)

- The excavation of the canal connecting Songkhla and Satun across the Kra Isthmus is finished in 2025.

- A transshipment port is also being built near the canal's midpoint.

- The Straits of Malacca's marine routes are all still open for business.

- The shortest path through the Straits of Malacca or the Kra Canal is chosen as the ideal route to compute transportation expenses, depending on the origin-destination combinations.

Scenario 2: The Kra Canal Only

All sea routes across the Straits of Malacca are discontinued, and the Kra Canal-Singapore feeder route is opened A transshipment port is also built at the canal's midpoint. In this example, Singapore's worst-case scenario is taken into account. The Kra Canal has taken the place of the Straits of Malacca for all commerce. This is not a fallout from the Singapore or the Kra Canal are the two more cost-effective options for transshipments, but we simply assume that the Kra Canal always the better option to calculate the most possible harm to Singapore.

Scenario 3: The Kra Canal and Special Economic Zones (SEZ) in Southern Thailand

In this scenario, they want to use the canal to help economic growth of Southern Thailand. To do this, they permit imports and exports through Kra Port and create SEZ in the provinces of Songkhla and Satun, which are closest to the canal. The importance of the Indian Ocean as a Centre for Inter-Exchanges between the East and the West Asia, Africa, Australia and Antarctica all encircle the Indian Ocean at a great distance, which doubles the sea's advantage. The expansion of sea trade activities that occurred along the sea route and the number of sea ports that have been growing ever since may be seen in the landscapes of these areas. There is evidence that human beings engaged in marine trade operations in land areas, coastal regions and estuaries before they started cultivating crops. It has been evident that the initial focus of transportation via maritime routes has been on those residing in the West and the East. As proof, it has been discovered that civilizations date back to the first century.There are written records in the western Indian Ocean region attesting to the beginning of maritime trade by inhabitants of the Egyptian, Mesopotamian and Indus river valley civilizations. It is evident from the objects and writings unearthed in Mesopotamia between the 4th and 3rd centuries B.C. that trade by sea had already begun in the Gulf of Arab region. The demand for products and services increased as a result of the upward social mobility that was then visible with the growth of civilizations. The opulent things were included on that list. Numerous sorts of stones, wood and metals needed to make military gear for use in battle and numerous beautiful clay pots were among the raw resources. There are written records in the western Indian Ocean region attesting to the beginning of maritime trade by inhabitants of the Egyptian, Mesopotamian and Indus river valley

civilizations. It is evident from the objects and writings unearthed in Mesopotamia between the 4th and 3rd centuries B.C. that trade by sea had already begun in the Gulf of Arab region. (Matthew P.F. 2011)

- The excavation of the canal connecting Songkhla and Satun across the Kra Isthmus is finished in 2025.

- A transshipment port is also being built near the canal's midpoint. We now permit imports and exports to Thailand from this port.

- The Straits of Malacca's marine routes are all still open for business.

- The shortest path through the Straits of Malacca or the Kra Canal is chosen as the optimal route to determine the transport costs based on the origin-destination combinations.

- In the provinces of Songkhla and Satun, Special Economic Zones (SEZ) are created in 2025. We use the assumption that the parameter "A," which denotes a 10% improvement in industrial productivity, applies to the provinces designated as SEZ. (Pearson M. N. 2003)

With the aid of these discoveries and their understanding of the monsoonal winds and astrology, modern sailors have been able to trespass in the Arab Sea. Similar evidence suggests that Indian and Arabian trade ships traveled from Southern Arabia to the Malabar Coast and then returned to Arabia in the second and third centuries B.C. The historians claim that during the year 1000 B.C., the long-distance maritime commercial activity between Egypt and the Mesopotamian civilizations gradually decreased. Greek and Roman salesmen made up the group that participated in sea trade activities in the Indian Ocean in the second half of the first century B.C. The historical record referred to as "Perilous of the Paraphrase without limits. China and East Asian traders have engaged in maritime trade with India, while the latter has also exported a variety of goods while receiving higher-value metals like silver, copper and gold. It has been demonstrated through the use of coins from the Maurya tradition, Persia, Rome and the Han dynasty in China that the East and the West have historically been important hubs for trade Clothing and clay pots. The common commodities that have been transported throughout the Indian Ocean region include metallic objects, glass, pearls, aromatic items, rare furniture, spices, stones and corals. As a result, the Indian and Sri Lankan ports, both of which are in the Indian Ocean, have been regarded as important hubs for the flow of commodities. (Rahman N. S. F.A., Salleh N. H. M., Najib A. F. A. & Lun V. Y. H. 2016). As evidenced by historical and archaeological artifacts, Sri Lanka has served as a sea port for mooring merchant ships, a center for providing assistance for merchant ships and a center for inter-exchanges due to its strategically advantageous location in the middle of the international maritime route. (Seland E.H. 2013)

Over the past three thousand years, smaller and larger trade ships have plied the seas from Arabian and Asian loactions, including Rome, China and

Malaysia. One of these commercial cities built in Sri Lanka is Manthai, which was one of the ports along the Maritime Silk Route that grew into the establishment of particular hub.

Kra Canal Route and Ancient Trade Activities in the Indian Ocean

The primary route that Chinese traders utilize to move goods through the historic sea channels in the Indian Ocean is the Kra Canal. This canal is located on the Kra Isthmus, also known as the narrowest point separating the Andaman Sea from the Gulf of Thailand and the Malay hemisphere. It has been discovered that 12 ports, including Takuapa, Tavoy, Ranong and Singgora, were operating next to the existing sea routes throughout the fourth and fifth centuries A.D. These ports are likely to have served as mooring points for Chinese commerce ships in more recent times. According to the findings of the Siam Society's archaeological investigations, it is clear that the Kra Canal was preferred for transportation over the Sea Strait of Malacca because the latter route involved a high number of accidents for merchant ships traveling from the Pacific to the Indian oceans. According to the archaeological data presented by the Siam Council in 1930, traveling via the India Ocean's high-risk area was preferred to traveling through the Kra Isthmus's restricted land area. Elephants have reportedly been employed as a form of transportation over the Kra Isthmus on land, while smaller watercraft have been used to traverse the minor canals, with them taking 5-8 days to complete the journey. Despite numerous requests to enlarge this natural reservoir to facilitate transit by large commerce ships, ancient Thai rulers including King Narai of Ayutthaya (1629–1688 A.D.) and King Narai of Sukhothai.As a result, the Europeans introduced the concept of Kra Canal to Siam during the reigns of King Rama III, also known as King Phra Nangklao (1824–1851), King Rama IV, also known as King Mongkut (1851–1868), and King Rama V, also known as King Chulalongkorn (1868–19010). The idea to repair the Kra Canal has been rejected due to the displeasure of the Siamese over Europe's involvement in the position of the Kra Canal (Figure 3) (Thongsin, 2002; Dobbos.2016; Chen & Kumagi, 2016).

The kingdom of Ayutthaya or Ayodhya, which was founded in 1350 AD while Thailand was still known as Siam at the time, was one of the most prosperous kingdoms of Thailand. The requirement to widen the Kra Canal across the Kra Isthmus emerged due to the quick growth of the maritime trade operations that followed the entry of these nations in Siam. The French engineer M. De Lamar came up with the concept for the first time during the reign of King Narai, and he also demonstrated the viability of building a road between Songkhla in Thailand with Tavoy in Burma. The Kra Isthmus contains a mountainous terrain, which led to the idea's rejection as well. One of the busiest marine channels in the modern era is the Strait of Malacca. The Indian Ocean and the Pacific Ocean both border this maritime channel. As a result of the development of the modern world (Thapa R. B 2008).

Conclusion

The Maritime Silk Route was the primary sea commerce route connecting East and West in ancient times. Since the late first century B.C., this sea route has been developing. One notable aspect is that traders from the East and the West have brought their goods and commodities to the ports near the Indian Ocean region, where they have exchanged goods at the same location. This led to the development of various commercial cities that aided in the provision of services for the sailors of India and Sri Lanka. Similar to the Sea Strait, the Kra Canal, which was located in Southern Thailand, has been just as significant. Similar to the Sea Strait of Malacca, which was used to move products and commodities from East Asia to China and Japan for the ports in the Indian Ocean region, the Kra Canal, which was located in Southern Thailand, has been equally vital. The absence of dangers for sailors crossing the Sea Strait of Malacca was a key reason in the Kra Canal's importance in trade and transportation activities. The Kra Canal was recognized as a commerce route that connected two oceans as early as the fourth century B.C., despite the fact that it was clear that modern ways had been recommended for its development.

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ADVANCING MARITIME AFFAIRS: ENHANCING THE ROLE OF THE SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION (SAARC) IN SRI LANKAN TERRITORIAL WATER

Lieutenant (CE) Shehan Ranathunga

Abstract

This journal aims to explore the potential for the South Asian Association for Regional Cooperation (SAARC) to contribute to the maritime affairs of Sri Lanka. Sri Lankas' strategic geographical location and its extensive maritime resources, harnessing the cooperation and expertise of SAARC can greatly benefit the country. This journal examines the importance of maritime affairs to Sri Lanka, analyzes the current status of SAARC's engagement in the maritime domain and proposes strategies to enhance SAARCs' role in promoting maritime cooperation, security and sustainable development in Sri Lanka.

Introduction

The South Asian Association for Regional Cooperation (SAARC) is a regional intergovernmental organization that fosters cooperation and integration among the South Asian nations. It was established on December 8, 1985, with the signing of the SAARC Charter by the seven founding member states: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. Afghanistan joined as the eighth member in 2007. SAARC aims to promote peace, stability, and economic prosperity in the South Asian region through dialogue, collaboration, and mutual understanding. SAARC serves as a platform for member states to address shared challenges, strengthen regional integration and pursue common goals. The organization covers various areas of cooperation, including agriculture, trade, tourism, energy, culture, education and people-to-people exchanges. SAARC operates on the principles of sovereign equality, mutual respect and non-interference in the internal affairs of member states.

The primary objective of SAARC is to promote welfare and improve the quality of life for the people of South Asia. It seeks to enhance economic cooperation, reduce poverty and create opportunities for sustainable development. SAARC facilitates dialogue and negotiation among member states to address regional issues, such as poverty alleviation, climate change, natural disasters, and regional security challenges. Over the years, SAARC has made significant strides in regional cooperation. It has established various mechanisms and bodies, including the Council of Ministers, Standing Committee, Technical Committees and specialized Centers, to facilitate collaboration and implementation of agreed-upon initiatives. SAARC summits, held annually or biennially, provide an opportunity for member states to review progress, set priorities and chart the future course of regional cooperation. However, SAARC has faced challenges in

realizing its full potential due to various factors, including political differences, security concerns and bilateral tensions among member states. Despite these challenges, SAARC continues to play a crucial role in promoting regional dialogue, fostering cultural exchanges and facilitating economic integration in South Asia.

Sri Lanka's Maritime Significance

Sri Lanka, an island nation located in the Indian Ocean, holds significant maritime significance due to its strategic geographical location, abundant maritime resources and historical maritime heritage. This section explores the various aspects of Sri Lanka's maritime significance.

a.   **Geographical Advantage**

•   Sri Lanka's strategic location in the Indian Ocean positions it at the crossroads of major international maritime routes, connecting the East with the West.

•   The island acts as a crucial maritime gateway between the Indian subcontinent, Southeast Asia, the Middle East and Africa.

•   Sri Lanka's proximity to major global trade routes, such as the East-West shipping lane, gives it a pivotal role in international maritime commerce.

b.   **Economic Importance**

•   Sri Lanka's maritime sector contributes significantly to its economy. The country's ports and coastal areas serve as vital hubs for trade, shipping and logistics.

•   The Port of Colombo, situated in the capital city, is one of the busiest ports in South Asia and a major transshipment hub.

•   Sri Lanka's maritime sector provides employment opportunities, generates revenue through port services and supports industries such as fishing, shipbuilding and maritime tourism.

c.   **Resource-rich Marine Environment**

•   Sri Lanka possesses a diverse marine ecosystem, including coral reefs, seagrass beds and mangroves, which support a rich array of marine biodiversity.

•   The country's coastal waters are home to numerous fish species, making it a significant fishing ground for both local and international fishing communities.

•   Sri Lanka's marine resources, including fisheries, mineral deposits, and offshore oil and gas potential, hold considerable economic value.

d. Security Implications

•   Sri Lanka's maritime significance extends to security consider-ations. The country's maritime domain plays a crucial role in ensur-ing regional security and stability.

•   Sri Lanka's navy, equipped with patrol vessels and surveillance capabilities, actively monitors its territorial waters, safeguarding its maritime borders and protecting against maritime threats such as piracy and smuggling.

•   The island's location has implications for maritime security cooperation, as Sri Lanka collaborates with regional and internation-al partners to address transnational challenges, including maritime terrorism, illicit trafficking, and maritime domain awareness.

e. Blue Economy towards Sustainable Development

•   Sri Lanka recognizes the potential of its maritime resources and has embraced the concept of the blue economy, which emphasizes sustainable use and management of ocean resources.

•   The development of maritime sectors, such as marine tourism, renewable energy, aquaculture, and ocean-based industries, con-tributes to Sri Lanka's sustainable development goals and economic growth.

•   Sri Lanka's commitment to sustainable maritime practices, in-cluding marine conservation, pollution prevention and responsible fishing, ensures the long-term viability of its marine ecosystem.

The Role of SAARC in Maritime Affairs

The South Asian Association for Regional Cooperation (SAARC) plays a significant role in promoting maritime affairs and cooperation among its mem-ber states. While SAARC's engagement in maritime affairs is still developing, the organization has recognized the importance of the maritime domain and has taken several initiatives to address maritime challenges and promote coopera-tion. This section explores the role of SAARC in maritime affairs.

a.   Maritime Cooperation Framework

•   SAARC has established a framework for maritime cooperation, recognizing the importance of enhancing maritime connectivity, pro-moting maritime trade and addressing maritime security challenges within the region.

•   The organization has emphasized the need for cooperation among member states in areas such as maritime transport, port develop-ment, maritime connectivity and maritime safety.

b. **Maritime Connectivity and Trade**

• SAARC encourages member states to strengthen maritime connectivity and promote regional trade through enhanced maritime transport and logistical linkages.

• The organization promotes the development of maritime infrastructure, including ports, terminals and shipping routes, to facilitate efficient movement of goods and foster economic integration in the region.

c. **Maritime Security Cooperation**

• SAARC recognizes the significance of maritime security in the region and encourages member states to collaborate in addressing maritime security challenges, including piracy, smuggling, terrorism and maritime domain awareness.

• The organization facilitates dialogue and cooperation among member states to develop joint strategies, share information and coordinate efforts to ensure the safety and security of maritime activities in the region.

d. **Search and Rescue**

• SAARC has emphasized the importance of maritime search and rescue operations to enhance safety at sea and respond to emergencies.

• The organization encourages member states to cooperate in conducting joint search and rescue exercises, sharing best practices and developing capabilities to respond effectively to maritime incidents and accidents.

e. **Maritime Resource Management**

• SAARC recognizes the significance of sustainable management and utilization of marine resources within the region.

• The organization encourages member states to collaborate on issues such as responsible fishing practices, marine pollution prevention, conservation of marine biodiversity and sustainable development of marine-based industries.

f. **Regional Cooperation with External Partners**

• SAARC seeks to engage with external partners and regional organizations to promote maritime cooperation and address common maritime challenges.

• The organization explores avenues for collaboration with organizations such as the Indian Ocean Rim Association (IORA) and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) to enhance regional maritime cooperation and coordination.

g. **Capacity Building and Knowledge Sharing**

•   SAARC encourages member states to engage in capacity-building initiatives, training programs and knowledge-sharing activities in the maritime domain.

•   The organization facilitates the exchange of best practices, expertise, and information among member states to enhance their maritime capabilities and foster cooperation.

While SAARC's engagement in maritime affairs is a relatively newer area of focus, the organization's efforts in promoting maritime connectivity, trade, security, and sustainable resource management demonstrate its commitment to addressing maritime challenges and advancing regional cooperation in this domain.

Importance of SAARC to Sri Lanka's Maritime Affairs

The South Asian Association for Regional Cooperation (SAARC) holds significant importance to Sri Lanka's maritime affairs. As an island nation situated strategically in the Indian Ocean, Sri Lanka's engagement with SAARC enhances its maritime connectivity, promotes economic integration, strengthens maritime security, and fosters sustainable development. This section explores the key aspects of SAARC's importance to Sri Lanka's maritime affairs.

a. **Enhancing Maritime Connectivity**

•   SAARC facilitates regional cooperation and coordination in improving maritime connectivity, including port infrastructure development, shipping routes and logistical linkages.

•   Improved maritime connectivity within SAARC member states allows Sri Lanka to enhance its trade and economic integration by providing efficient and cost-effective transportation routes for imports and exports.

•   Collaborative efforts among SAARC member states to develop and streamline maritime connectivity contribute to Sri Lanka's efforts to position itself as a vital maritime hub in the region.

b. **Promoting Trade and Economic Integration**

•   SAARC's focus on promoting regional trade and economic integration provides Sri Lanka with opportunities to expand its maritime trade network and strengthen economic ties with neighboring countries.

•   Through SAARC's initiatives, Sri Lanka can explore avenues for trade facilitation, harmonization of customs procedures and reduction of trade barriers, thereby enhancing its maritime trade potential.

- Collaborative efforts within SAARC to establish regional value chains, enhance cross-border investment and promote joint ventures contribute to Sri Lanka's economic growth and prosperity.

c.   Strengthening Maritime Security

- SAARC's emphasis on maritime security cooperation is crucial for Sri Lanka, considering its vulnerability to various maritime security challenges such as piracy, smuggling and transnational crimes.

- Through SAARC, Sri Lanka can engage in joint efforts with member states to enhance maritime domain awareness, intelligence sharing and capacity building in maritime security operations.

- Collaboration within SAARC enables Sri Lanka to strengthen its maritime security infrastructure, including surveillance capabilities, naval cooperation and joint maritime patrols, ensuring the safety and security of its maritime borders.

d. Fostering Sustainable Marine Resource Management

- SAARC's focus on sustainable development and conservation of marine resources aligns with Sri Lanka's efforts to manage its marine ecosystem and promote sustainable marine resource utilization.

- Through SAARC, Sri Lanka can engage in knowledge-sharing, best practices exchange and collaborative initiatives for responsible fishing practices, marine pollution prevention and conservation of marine biodiversity.

- SAARC provides a platform for Sri Lanka to collaborate with member states in addressing environmental challenges, promoting sustainable marine-based industries and implementing conservation measures for the long-term well-being of its marine resources.

e.   Addressing Common Challenges.

- SAARC serves as a forum for Sri Lanka to address common maritime challenges and concerns with neighboring countries.

- Through dialogue and cooperation within SAARC, Sri Lanka can engage in discussions on issues such as climate change impacts, natural disasters, maritime boundary disputes and cross-border environmental concerns.

- Collaboration within SAARC enables Sri Lanka to work towards collective solutions and regional approaches to address shared challenges, fostering stability, peace and sustainable development in the maritime domain.

Strategies for Enhancing SAARC's Role in Sri Lanka's Maritime Affairs

To maximize the potential benefits of the South Asian Association for Regional Cooperation (SAARC) in Sri Lanka's maritime affairs, several strategies can be implemented. These strategies focus on strengthening regional cooperation, promoting joint exercises and training programs, facilitating information sharing, developing maritime infrastructure and implementing sustainable practices. By adopting these strategies, SAARC can play an enhanced role in promoting maritime cooperation, security and sustainable development in Sri Lanka.

a. **Strengthening Regional Cooperation and Dialogue**

- Encourage regular and meaningful dialogues among SAARC member states on maritime issues through dedicated forums, workshops and conferences.

- Establish a mechanism for sharing experiences, lessons learned, and best practices in maritime affairs to enhance collaboration and cooperation.

- Foster an atmosphere of trust, understanding and mutual respect among member states to facilitate effective maritime cooperation.

b. **Promoting Joint Maritime Exercises and Training Programs**

- Organize joint maritime exercises, such as naval drills, search and rescue exercises and counter-piracy operations, among SAARC member states.

- Facilitate the exchange of maritime training programs, workshops and capacity-building initiatives to enhance the skills and capabilities of Sri Lanka's maritime personnel.

c. **Facilitating Information and Intelligence Sharing**

- Develop a mechanism for sharing maritime intelligence, information and data among SAARC member states to improve situational awareness and address maritime security challenges effectively.

- Establish a platform for real-time communication and coordination among member states' maritime agencies to enhance responsiveness during emergencies and security incidents.

- Promote the exchange of information on illegal fishing activities, maritime piracy, smuggling and other maritime threats to strengthen regional maritime security.

d. **Developing Maritime Infrastructure and Connectivity**

- Collaborate with member states to develop and upgrade maritime infrastructure, including ports, terminals and maritime logistics networks, to enhance Sri Lanka's connectivity within the region.

- Facilitate the development of maritime trade routes, shipping lanes and multimodal transport systems to optimize Sri Lanka's geographical advantage and boost regional trade and economic integration.

- Encourage investments and public-private partnerships in maritime infrastructure projects, focusing on sustainable development, efficiency and environmental considerations.

e. Implementing Sustainable Maritime Practices and Conservation Efforts

- Promote sustainable fishing practices, including responsible fishing techniques, regulation compliance and conservation of marine resources, through awareness campaigns and capacity-building programs.

- Collaborate with member states to implement measures for marine pollution prevention, including waste management, oil spill response and environmental impact assessments for maritime activities.

- Support research and innovation in sustainable marine industries, such as renewable energy, aquaculture and eco-tourism, to promote economic growth while minimizing environmental impact.

By implementing these strategies, SAARC can enhance its role in Sri Lanka's maritime affairs. The strategies focus on strengthening regional cooperation, promoting joint exercises and training, facilitating information sharing, developing maritime infrastructure and implementing sustainable practices. With a collaborative and proactive approach, SAARC can contribute significantly to maritime cooperation, security and sustainable development in Sri Lanka and the broader South Asian region.

Recommendations for Enhancing SAARC's Role in Sri Lanka's Maritime Affairs

By implementing follow recommendations, SAARC can enhance its role in Sri Lanka's maritime affairs and contribute to the development, security and sustainable management of the maritime domain. These actions will foster greater regional cooperation, address common challenges and unlock the full potential of Sri Lanka's maritime resources for the benefit of the country and the entire South Asian region.

a. Establish a Dedicated SAARC Maritime Cooperation Cell

- Create a specialized cell within SAARC to focus specifically on maritime affairs, serving as a central hub for coordination, information exchange and policy development.

• The cell should facilitate regular communication and collaboration among member states, organizing workshops, seminars and joint initiatives to address maritime challenges and opportunities.

b. **Strengthen Maritime Security Cooperation**

• Enhance collaboration among member states in maritime security, including joint patrols, intelligence sharing and coordinated responses to maritime threats.

• Develop a common framework for maritime domain awareness, sharing of maritime surveillance data and information on illicit activities such as smuggling, piracy and terrorism.

c. **Foster Regional Maritime Diplomacy**

• Encourage high-level diplomatic engagements among SAARC member states to discuss maritime issues, promote cooperation and resolve disputes through peaceful means.

• Facilitate the establishment of a regular platform for dialogue, such as a maritime security summit, to engage relevant stakeholders, including governments, maritime agencies and industry representatives.

d. **Promote Blue Economy Initiatives**

• Encourage member states to develop and implement blue economy strategies, focusing on sustainable utilization of marine resources, marine tourism, renewable energy and aquaculture.

• Facilitate knowledge sharing and best practice exchange on blue economy initiatives, including the development of sustainable fishing practices and marine conservation measures.

e. **Enhance Capacity Building and Technical Assistance**

• Strengthen capacity-building programs and training initiatives to improve the skills and capabilities of Sri Lanka's maritime agencies, including the navy, coast guard and port authorities.

• Foster cooperation in technology transfer, sharing of expertise, and joint research and development projects related to maritime technologies, maritime safety and environmental protection.

f. **Facilitate Public-Private Partnerships**

• Encourage collaboration between governments and private sector stakeholders to promote investment in maritime infrastructure, including ports, shipbuilding and maritime logistics.

• Foster public-private partnerships in sustainable marine industries, such as marine renewable energy projects, marine tourism initiatives and eco-friendly shipping practices.

g. **Strengthen Regional Legal Frameworks**

•   Collaborate on the development and implementation of regional legal frameworks, such as agreements on maritime boundaries, joint fisheries management and maritime environmental protection.

•   Facilitate the exchange of legal expertise and best practices among member states to ensure consistency and coherence in regional maritime governance.

h. **Promote Academic and Research Cooperation**

•   Encourage academic and research institutions within SAARC member states to collaborate on maritime studies, research projects and knowledge sharing.

•   Establish joint research programs, scholarships and academic exchanges to foster a deeper understanding of maritime issues and promote regional expertise in maritime affairs.

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IMPORTANCE OF MARITIME AFFAIRS AND STRATEGIES

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Abstract

Maritime strategies and maritime affairs are crucial elements in shaping the geopolitical landscape of the world. Maritime strategies enable nations to maintain control over their domestic waters while securing their interests in international waters. Maritime affairs involve various aspects related to maritime activities, such as economic development, environmental protection, national security, and diplomacy. This paper aims to provide an abstract understanding of the significance of maritime strategies and maritime affairs in international relations. It elucidates the factors driving the emergence of maritime strategies, their historical evolution, and current trends.

The article also discusses the critical issues in maritime affairs, such as the impact of climate change on the oceans, piracy, illegal fishing and maritime boundary disputes. Finally, the paper analyses the role of international organizations and forums in addressing these issues and promoting cooperation among nations. Overall, the paper highlights the importance of maritime strategies and maritime affairs in shaping the security and prosperity of nations in the contemporary world.

Keywords: Maritime law, Maritime security affairs,Maritime trade, Shipping, piracy, illegal fishing.

Introduction

Maritime Strategy and Maritime Affairs

- Maritime strategy refers to the overarching plan and actions taken by a nation or organization to protect and promote its maritime interests and influence. This includes utilizing naval forces and other maritime assets to safeguard sea lines of communication, secure maritime borders, establish favorable trade and economic relationships, and project power and influence in international waters.

- Maritime affairs, on the other hand, refer to the various issues and activities related to the maritime domain. This includes maritime security, navigation and shipping, fisheries management, marine environmental protection, marine scientific research, and maritime law and regulations. Governments, international organizations, and private entities all play a role in managing and addressing these various aspects of maritime affairs.

Evolution of Maritime Strategy

The concept of maritime strategy has evolved significantly over time, reflecting changes in global politics, economics, technology, and military capabilities. Here is a brief overview of some of the key phases and trends in the evolution of maritime strategy:

- **Age of Sail. (16th -19th Centuries)**   During the era of wooden sailing ships, maritime strategy was primarily focused on the control of sea lanes and the projection of naval power in support of territorial expansion, mercantile interests, and piracy suppression. Naval warfare was often conducted in close proximity to land, and decisive fleet actions.

- **Industrial Age. (Late 19th – Early 20th Centuries)**   The advent of ironclads, steam engines, and rifled guns transformed naval warfare and led to the rise of naval powers such as Great Britain, Germany, and Japan. The concept of sea power, articulated by Alfred Thayer Mahan, emphasized the importance of naval forces in securing global trade and national security interests. The rise of naval arms races and the dreadnought revolution underscored the central role of technology and industrial capacity in naval competition.

- **World War Era. (1914-1945)**   The two world wars witnessed the emergence of truly global naval conflicts, with navies playing critical roles in the world war effort. Innovations such as submarines, aircraft carriers, and amphibious warfare tactics demonstrated the potential of naval forces to shape the course of the war. The interwar steroid also saw the development of naval treaties and agreements aimed at limiting the arms race and preserving stability.

- **Cold War. (1945-1991)**   The bipolar competition between the United States and the Soviet Union dominated global politics, with maritime strategy playing a key role in projecting power and deterring conflict. The development of nuclear weapons and ballistic missile submarines further elevated the importance of naval forces in strategic deterrence the emphasis on sea control. Power projection and forward presence led to one of naval bases and partnerships around world.

- **Post-Cold War Era. (1991-Present)**   The end of the Cold War ushered in a period of global integration, regional conflicts, and non-state actors that challenged traditional maritime strategy. The emphasis has shifted towards maritime security, humanitarian assistance and disaster relief with navies increasingly tasked with addressing piracy, terrorism, and environmental threats. Technological advances such as unmanned systems, precision weapons, and cyber capabilities are transforming the nature of naval competition and cooperation. The concept of maritime strategy today encompass a wide range of activities, from supporting commercial interests to promote national resilience.

The 21st century has highly focused on maritime strategy and maritime affairs as countries to recognize the increasing importance of the oceans for trade, security and environmental sustainability. Some key themes and developments in this area include:

- **Geopolitics.** The strategic significance of the oceans has increased due to the rise of China, which has become a major maritime power, as well as growing tensions between different countries over maritime borders, access to resources, and security concerns.

- **Economic Interests.** The oceans are increasingly seen as a vital source of natural resources, including oil, gas and fish, as well as a crucial pathway for global trade. Many countries have developed a maritime economy strategy to promote growth and innovation in this sector.

- **Security Challenges.** Maritime security concerns have grown in recent years, particularly due to piracy, terrorism, human trafficking and drug smuggling. Navies and maritime security forces have been deploying advanced technologies and strategies to counter these threats.

- **Environmental Concerns.** The oceans are facing significant environmental challenges, including climate change, ocean acidification, pollution and overfishing. Countries are working together to address these issues through international organizations and agreements.

- **Technological Advancements.** Advances in maritime technology such as autonomous vessels, artificial intelligence and enhanced communication systems are transforming how countries navigate and manage their maritime operations.

When consider the Overall, the 21st century has understood critical era for maritime affairs to shape global politics, economics, security and environmental sustainability. Countries that can effectively manage and leverage their maritime resources will be best positioned to compete and thrive in the years ahead.

Impact of Modern Technology on Maritime Strategy and Affairs

- **Improved Communication.** Modern technology has made it easier for ships at sea to communicate with each other and with their shore side headquarters. Satellites and the internet have made it possible to transmit and receive data, videos and images from virtually anywhere in the world.

- **Navigation and Surveillance.** Advanced navigation systems, such as Global Positioning System (GPS), Automatic Identification System (AIS) and radar systems have improved the accuracy and efficiency of navigation. These systems have also enhanced vessel surveillance, an essential tool in maritime security efforts.

• **Remote - Controlled Vessels.**   The development of autonomous and remotely piloted vessels brings the potential for significant changes in maritime operations, cost savings and safety improvements.

• **Environmental Monitoring.**   The use of maritime technology has contributed to the monitoring of ocean conditions and the environment. It has also led to the development of more eco-friendly shipping practices, including the use of low-sulfur fuels and ballast water management.

• **Cyber Security Challenges.**   Modern technology has led to cyber security challenges, as ships are increasingly connected to the internet, making them vulnerable to cyber-attacks. Therefore, there is a need for more robust cyber security measures to protect the marine industry.

Importance of Maritime Strategies in Indian Ocean

Figure 1: Power Distribution of Indian Ocean

The Indian Ocean is significant to regional countries and powerful nations because of its trade, energy and abundance of natural resources. According to Cody T. Smith, "the Indian Ocean is incredibly important in terms of trade and energy security." Regional energy securities present a serious strategic dilemma, mainly between energy dependent China and India, which leads to a rivalry. Additionally, the sea bed of the Indian Ocean is well-off in natural resources, which increases tensions over the rights of the Exclusive Economic Zones (EEZ) and has further aggravated rivalries. While the rapid growth of their economies, naval modernization, and energy security may have been reasons for a power

struggle between India and China in the IOR in recent times, historically, their rivalry emerged when both of these countries reclaimed their identity after an extended period of foreign tyranny. China and India had tensions over unsettled borders in the Indo Tibetan frontier, in Tawang; over the Chinese invasion of Vietnam in 1979; and over an Indian nuclear weapons test in 1998. Despite the many tensions, China and India fought openly only once in the 20th century.

Impacts of Maritime Strategies and Affairs on Srilanka in 21ˢᵗ Century
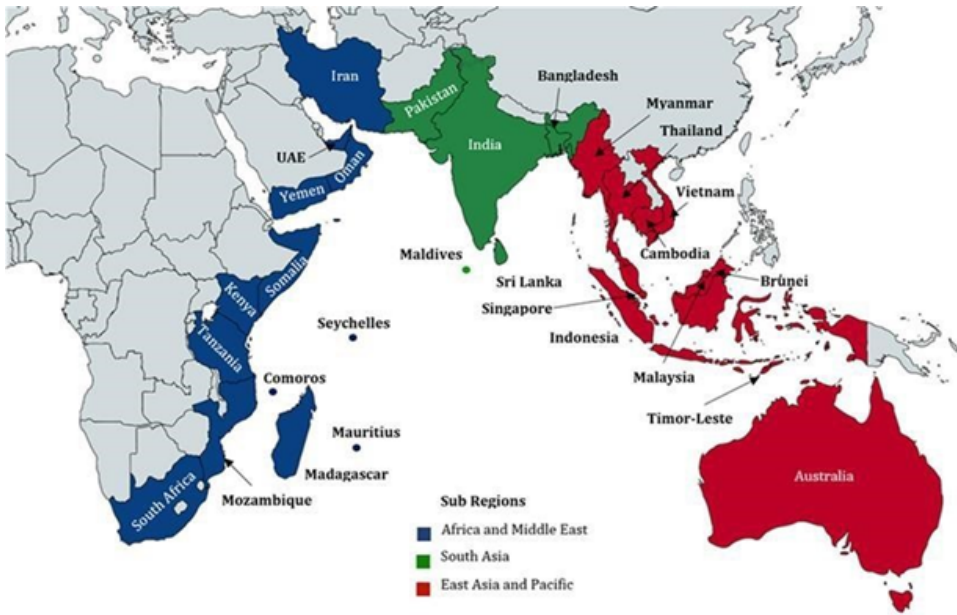

Figure 2: Importance of Indian Ocean

Maritime strategy and maritime affairs are becoming increasingly important in the modern world due to the role they play in global trade, security, and transportation. As an island nation located in a strategically important location in the Indian Ocean, Sri Lanka is greatly affected by these developments and has embarked on a number of strategies to harness its maritime potential.

One key aspect of Sri Lanka's maritime strategy is its plans to transform the country into a hub for international shipping and logistics. Sri Lanka is ideally located along major shipping routes between Asia, Europe and Africa, and could potentially serve as a critical transit point for goods and people. To achieve this goal, the government has initiated major infrastructure projects at its ports, including the Colombo Port City project, which aims to build a new city adjacent to the existing port.

Another important aspect of Sri Lanka's maritime strategy is its focus on regional cooperation and integration. The country is a member of regional

organizations such as the Indian Ocean Rim Association (IORA) and the Bay of Bengal Initiative for Multi-Sectorial Technical and Economic Cooperation (BIMSTEC), and is working to strengthen ties with neighboring countries such as India and China. These efforts could help to promote greater economic integration and cooperation in the region, which could have positive effects on Sri Lanka's own economic development.

However, the growing importance of maritime affairs also brings new challenges and risks for Sri Lanka. One of the key concerns is the threat of piracy and maritime terrorism in the Indian Ocean, which has become more pronounced in recent years, Sri Lanka has participated in international efforts to combat piracy, but more needs to be done to address this issue and ensure the safety of shipping and transit in the region.

Overall, the importance of maritime affairs in the 21st century presents both opportunities and challenges for Sri Lanka. By leveraging its strategic location and investing in key infrastructure and partnerships, Sri Lanka has the potential to become a major player in the global maritime industry. However, it must also be prepared to address the security risks and challenges that come with this role.

Sri Lanka is strategically located in the Indian Ocean and serves as a crucial maritime hub between the east and west. Its strategic location has played a significant role in the country's maritime affairs and has made it an important player in global trade and commerce.

- **Maritime Trade.** Sri Lanka's prime location, as the gateway to the Indian Ocean, has enabled it to become a significant player in global maritime trade. The country's proximity to the major shipping routes between Asia, Europe, and the Middle East has made it a key transshipment hub and an important port of call for international shipping lines.

- **Shipping and Logistics.** Sri Lanka's well-developed port infrastructure, including the Colombo Port, has contributed to the country's position as a regional shipping and logistics center. The country is home to several international container terminal operators, and its ports provide transshipment services, cargo handling, warehousing and other logistical support.

- **Security and Defense.** Sri Lanka's location has also made it a significant player in the Indian Ocean's security and defense realm. It plays a vital role in ensuring maritime security in the region, including counter-piracy operations and defense relations with other Indian Ocean countries. Its strategic position near important international shipping lanes also makes it an essential base for naval operations.

- **Tourism.** Sri Lanka's strategic location has made it a popular tourist destination, with numerous beaches, cultural sites and natural

attractions attracting visitors from across the world. The country's proximity to other popular destinations, such as the Maldives and India, makes it a convenient stopover for travelers visiting the region.

In conclusion, Sri Lanka's strategic location makes it a crucial player in the Indian Ocean's maritime affairs and global trade and commerce. Its ports, logistics and naval capabilities, coupled with its tourist attractions, contribute significantly to its economy and provide a vital link between Asia, Europe and the Middle East.

What ways Sri lanka can capitalize on its strategic location along key maritime trade routes to boost economic growth and development in the 21st century?

Figure 3: Strategic Location of Sri Lanka

•   **Establishment of Economic Zones.**   Sri Lanka can establish special economic zones along its coastline, which can act as hubs for industrial manufacturing and trade. This will help to attract foreign investment, create employment opportunities and increase local production, yielding revenue from exports.

•   **Improvement of Port Infrastructure Facilities.**   Sri Lanka is already home to several ports, including the Hambantota port and the Colombo port. Investment can be made in improving the infrastructure of these ports, making them more efficient, reducing waiting times and

other delays, and increasing the volume of trade. The country can leverage its strategic location to develop transshipment hubs, where cargo from one vessel is transferred to another to promote trade between the East and the West.

• **Enhance the Connectivity.**   Sri Lanka can expand its network of air, sea and land transport links to connect with other countries, thereby providing better accessibility to areas that have larger business markets. Land connectivity, primarily by developing a strong road network, will improve the transport of goods more seamlessly. This will boast tourism since a strengthened transportation network makes it easier for tourists to move from country to country in the region.

• **Leverage the Digital Opportunities.**   Public private partnerships can develop the country's digital infrastructure and evolve regulatory frameworks favorable to ecommerce. The country's location and digital infrastructure will generate lucrative data center and disaster recovery opportunities to support high-growth industries.

• **Encourage the Regional Cooperation.**   Sri Lanka can promote regional concretion with neighboring countries. The Bay of Bengal Initiative for Multi-Sectorial Technical and Economic Cooperation (BIMSTEC) and the South Asian Association for Regional Cooperation (SAARC) offer such opportunities.

• **Investment on Human Capital.**   Children and youth must have access to high-quality education that equips them with the necessary skills to engage in the economies of the future, Entrepreneurs and small business owners must be supported in order to foster a truly dynamic private sector. Female participation in the labour force must be encouraged. These investments will guarantee Sri Lanka's competitiveness within the evolving South Asian and global economies.

• **Embrace Green Initiatives.**   Sri Lanka can embrace green initiatives such as renewable energy and eco-friendly technologies. These will help to efficiently capture expanding regional demand for clean energy and position the country as a responsible regional custodian of natural resources. By ensuring that environmental sustainability priorities are high on the economic policy agenda. Sri Lanka is positioning in a competitive global and regional economic and regulatory frameworks, based on sustainability objectives.

Nature of the Maritime Threats

Terrorist attacks, such as the bombing of the USS Cole in 2001, the explosion onboard Superferry-14 in 2004, and the use of small boats for the 2008 Mumbai attacks, demonstrate terrorists' capabilities of exploiting the maritime environment. The vulnerabilities in the maritime domain are

vast, and require a multitude of prevention techniques and layers of security capabilities. The United States National Strategy for Maritime Security (NSMS) categorizes maritime threats into nation threats, transnational criminal and piracy threats, environmental destruction and illegal seaborne immigration, Persons or organizations that wish to harm or threaten the maritime infrastructure may use explosive laden suicide boats to attack high interest vessels or offshore oil platforms, or utilize underwater explosive delivery vehicles or mines to destroy or threaten a port facility. Maritime threats may be deployed in small or large vessels, and can originate from across the globe.

Challenges for Maritime Security in Indian Ocean

- **Illegal Fishing.**   Sri Lanka's waters are a major fishing ground for its coastal communities. However, illegal fishing practices pose a significant challenge to maritime security. The use of illegal methods such as dynamite and trawling and poaching by foreign vessels has led to a decline in fish stocks, thereby affecting the livelihoods of the local fishermen.

- **Piracy.**   Sri Lanka's location in the Indian Ocean has made it vulnerable to piracy and armed robbery at sea. The country has witnessed incidents of sea piracy but significantly reduce in recent past.

- **Smuggling.**   Sri Lanka is a transit point for drug trafficking in the region. The Maritime nation faces challenges in preventing the smuggling of drugs, weapons and people. Smuggling activities are often aided by the country's porous coastline, which stretches over 1,340 km.

- **Terrorism.**   Sri Lanka has been a victim of terrorism in the past. Therefore, ensuring maritime security remains a critical challenge. The consequences of a terrorist attack on the country's critical infrastructure and shipping lanes could be catastrophic.

- **Environmental Threats.**   Illegal dumping, oil spills and marine pollution pose a serious threat to Sri Lanka's maritime environment. The country lacks the capacity to effectively manage these risks, which could have long-term effects on its economy and health of marine life.

- **Border Disputes.**   Sri Lanka has maritime boundaries with India and the Maldives, which have resulted in disputes over fishing rights and sea boundary demarcation. These disputes can escalate and become a bigger challenge to the country's maritime security.

Sri Lanka has implemented various strategies to address threats to its maritime security, including.

- **Strengthening Sri Lanka Navy.**   Sri Lanka has increased its naval presence and capabilities along its coastline and Sri Lanka waters improving its fleet of ships, acquiring new vessels, and enhancing its sur-

veillance capabilities.

• **Cooperation with Foreign Navies.** Sri Lanka has signed agreements with other countries to cooperate on maritime security issues and conduct joint exercise with India, Australia and the United States.

• **Establishing a Maritime Operations Centre.** The Sri Lanka Navy has established a Maritime Operations Centre to monitor and coordinate maritime security operations, share information and respond to any potential threats.

• **Strengthening Coastal Surveillance.** Sri Lanka has increased its coastal surveillance capabilities with the installation of radar systems, CCTV cameras, deep sea capabilities and air surveillance.

• **Maritime Law Enforcement.** Sri Lanka has increased its law enforcement efforts on maritime crime, including piracy, smuggling and illegal fishing, through increased patrols, search and seizure operations, and prosecution.

• **Enhancing Port Security.** Sri Lanka has implemented measures to enhance the security of its ports and habours, including the installation of security systems, mandatory vessel reporting and strict entry procedures for ships and crews.

• **Capacity Building.** Sri Lanka is investing in training and capacity building programs for its naval and law enforcement personnel, including specialized training in areas such as counter-terrorism, maritime law enforcement and search and rescue operations.

Role of the Sri Lanka Navy in Maritime Strategies and Affairs

The Sri Lanka Navy should continuously seek to maintain a naval strategy to achieve its designated role as required by the State. The ocean area around Sri Lanka lies within some of the major international shipping routes across the Indian Ocean. It is the responsibility of the SLN to maintain an effective surveillance of this vast ocean area in respect of following.

• Maintaining freedom of navigation in sea lines of communications.

• Prevent maritime pollution; prevent poaching and smuggling.

• Prevent sea piracy.

• Protection of own agencies exploiting ocean resources.

• Ensure maritime safety.

• Salvage, search and rescue.

• Assistance in maritime research.

Conclusion

The importance of maritime strategy and maritime affairs cannot be overstated. These areas have far-reaching impacts on global trade, security and stability. Effective maritime strategy is essential for maintaining the safety and security of naval forces, protection of maritime resources, and promoting economic growth. Maritime affairs, on the other hand, encompass diverse areas such as maritime law, maritime security affairs, maritime trade and shipping. These areas are critical to the global economy and must be managed with precision to ensure that they run smoothly. Overall, it can be deduced that sound maritime strategies and an effective maritime framework are essential for peaceful and sustainable global development. It is, crucial for policymakers and stakeholders to work together towards the implementation of comprehensive strategies and policies. Its help to optimization the maritime domain in vast potential.

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SRI LANKA MARITIME ISSUES IN THE CHANGING DYNAMIC IN INDIAN OCEAN

Sub Lieutenant Pramodaya Wijayasinghe

Abstract

Examines the evolving landscape of Sri Lanka's Maritime Affairs within the context of the changing dynamics of the Indian Ocean region. It delves into the strategic significance of Sri Lanka's geographic location, highlighting its role as a crucial maritime hub.Explores how shifting geopolitical, economic and environmental factors are influencing Sri Lanka's maritime policies, security concerns, and trade relationships. By analyzing key developments and challenges and provides insights into the intricate interplay between Sri Lanka's maritime interests and the broader transformations occurring in the Indian Ocean, shaping the nation's outlook and engagement in the maritime domain.

Introduction

Sri Lanka, a strategically located island nation in the Indian Ocean, has been playing a critical role in the region's maritime affairs for centuries. The country's long coastline, comprising around 1,320 km of coastline, has been a source of livelihood for coastal communities and has facilitated the movement of people and goods. Sri Lanka's location has also made it a crucial node in global shipping routes, with the Port of Colombo being one of the busiest ports in the region. However, with the changing dynamics of the Indian Ocean, Sri Lanka's maritime affairs have gained greater significance. This essay will examine Sri Lanka's maritime affairs in the context of the changing Indian Ocean, including its strategic location, traditional fishing practices, shipping industry, and maritime security.

Sri Lanka's Strategic Location

Sri Lanka's location has been a critical factor in its maritime significance. The country is located at the crossroads of the Indian Ocean, linking the east and west. The country's ports have served as vital nodes in global shipping routes, facilitating the movement of goods between major ports in Asia, Europe, and the Americas. The Port of Colombo, in particular, has become a key transshipment hub, connecting major ports in the region. The country's location has also made it a critical player in the geopolitics of the Indian Ocean. The region has become a focal point of great power rivalry, with major powers such as China, India, and the United States vying for influence in the region. Sri Lanka has found itself at the center of this rivalry, with China's increasing presence in the country's infrastructure projects and India's growing security concerns in the region.

Traditional Fishing Practices

Sri Lanka's fishing practices have sustained the livelihoods of coastal communities for centuries. The country's fishing industry has been a significant contributor to the national economy, accounting for around 1.5% of the country's GDP. However, overfishing, pollution and climate change have threatened the sustainability of these practices, leading to the adoption of sustainable fishing practices. The Sri Lankan government has taken measures to promote sustainable fishing practices, including the adoption of fishery management plans and the establishment of marine protected areas. These measures have helped to conserve fish stocks, protect marine ecosystems and improve the livelihoods of coastal communities. Traditional fishing practices have been an integral part of coastal communities for centuries. These practices have sustained the livelihoods of millions of people around the world and have been a source of food security for communities living along the coasts. However, the advent of modern fishing methods and the pressures of climate change and overfishing have threatened the sustainability of these practices.

Importance of Traditional Fishing Practices

Traditional fishing practices have sustained coastal communities for generations. These practices are often based on local knowledge and experience, passed down through families and communities. They are often adapted to local conditions, such as the type of fish and the geography of the coast. Traditional fishing practices have many advantages over modern fishing methods. They are often low-tech and low-cost, relying on simple equipment such as nets, traps, and lines. They are also more selective than modern fishing methods, targeting specific species and leaving others untouched. This helps to maintain the balance of the marine ecosystem and ensure the sustainability of fish stocks. Moreover, traditional fishing practices play an important role in preserving cultural heritage. They are often intertwined with local customs and traditions and their preservation helps to maintain the cultural identity of coastal communities.

Challenges of Traditional Fishing Practices

Traditional fishing practices face many challenges, including overfishing, pollution, climate change and the rise of industrial fishing. Overfishing, in particular, is a major threat to traditional fishing practices. It leads to the depletion of fish stocks and reduces the availability of fish for coastal communities. Pollution, such as plastic waste and oil spills, also harms marine ecosystems, affecting fish populations and the sustainability of traditional fishing practices. Climate change is another major challenge facing traditional fishing practices. Rising sea levels, changing water temperatures and ocean acidification all affect marine ecosystems and the availability of fish stocks. This makes it harder for coastal communities to maintain their traditional fishing practices and sustain

their livelihoods. The rise of industrial fishing also poses a threat to traditional fishing practices. Industrial fishing methods are often more efficient and cost-effective than traditional methods, leading to the overexploitation of fish stocks and the displacement of small-scale fishermen.

Efforts to Preserve Traditional Fishing Practices

Efforts are being made to preserve traditional fishing practices and ensure their sustainability. One approach is to promote sustainable fishing practices that respect the ecological balance of the marine environment. These practices often involve the use of selective fishing methods and the establishment of marine protected areas. Another approach is to support small-scale fishermen and their communities through policies and programs that help to maintain their livelihoods. This can involve providing access to credit and markets, training and education and support for community-based management of fisheries. Moreover, efforts are being made to raise awareness of the importance of traditional fishing practices and the threats facing them. This involves engaging with fishermen, their communities and the wider public to promote sustainable fishing practices and the conservation of marine ecosystems.

Traditional fishing practices are an important part of coastal communities around the world. They have sustained livelihoods and preserved cultural heritage for generations. However, they face many challenges, including over-fishing, pollution, climate change and the rise of industrial fishing. Efforts are being made to preserve these practices and ensure their sustainability, including promoting sustainable fishing practices, supporting small- scale fishermen and their communities and raising awareness of the importance of traditional fishing practices. By working together, we can help to ensure the sustainability of traditional fishing practices and the preservation of coastal communities and marine ecosystems for generations to come.

Shipping Industry

The shipping industry has been a critical component of Sri Lanka's maritime affairs. The country's ports have been vital nodes in global shipping routes, facilitating the movement of goods between major ports in the region. The Port of Colombo, in particular, has become a key transhipment hub, connecting major ports in Asia, Europe and the Americas. Sri Lanka's other ports, including Hambantota and Trincomalee, have also been developed to cater to the growing demands of the shipping industry. The Hambantota port, in particular, has been developed with Chinese investment and has raised concerns in India and other countries over China's increasing influence in the region.

New Technologies

The changing dynamics of the Indian Ocean have also led to the adoption of new technologies in Sri Lanka's maritime affairs. The use of digital technologies such as block chain, big data and artificial intelligence has improved the efficiency and transparency of Sri Lanka's ports, enabling faster and more secure cargo movement. The Sri Lankan government has also been investing in developing smart ports, which leverage digital technologies to optimize port operations and enhance the customer experience. These smart ports will play a critical role in Sri Lanka's maritime affairs, helping to facilitate the movement of goods and services and enhancing the country's competitiveness in the region.

Maritime Security

Maritime security is another critical aspect of Sri Lanka's maritime affairs. Sri Lanka is an island nation located in the Indian Ocean. Its strategic location has made it an important hub for maritime trade and transportation. However, Sri Lanka's maritime security has been a concern due to various threats such as piracy, illegal fishing, drug trafficking, human trafficking, and terrorism. Sri Lanka's maritime security faces several challenges. The most significant is the threat of piracy. Piracy in the Indian Ocean has increased in recent years, posing a significant threat to maritime security. Pirates often target commercial vessels and fishing boats, causing economic losses and endangering the lives of crew members. Another major challenge is illegal fishing. Illegal, unreported, and unregulated fishing (IUU) is a significant problem in Sri Lanka. IUU fishing reduces fish stocks, depriving Sri Lankan fishermen of their livelihoods and harming the marine ecosystem. Moreover, drug trafficking, human trafficking, and terrorism are also major concerns for Sri Lanka's maritime security.

Efforts to Address Sri Lanka's Maritime Security Challenges

The Sri Lankan government has taken several steps to address the challenges facing maritime security. One of the most significant steps was the establishment of the Sri Lanka Navy in 1950. The navy has played a crucial role in protecting Sri Lanka's maritime interests, including combating piracy and illegal fishing. The Sri Lankan government has also taken steps to combat IUU fishing. It has strengthened fisheries regulations and increased surveillance and enforcement measures. Additionally, the government has implemented programs to improve the livelihoods of local fishermen, such as providing financial assistance and training programs. In the fight against drug trafficking, human trafficking, and terrorism, the Sri Lankan government has worked closely with international partners. It has signed agreements with other countries to enhance intelligence-sharing and cooperation in combating these threats.

Importance of a Comprehensive Approach to Maritime Security

A comprehensive approach to maritime security is an essential for Sri Lanka to address the challenges it faces. Such an approach would involve a range of measures to address the various threats to maritime security, including piracy, illegal fishing, drug trafficking, human trafficking, and terrorism. One critical aspect of a comprehensive approach to maritime security is cooperation with other countries. Maritime security threats are transnational, and they require a coordinated response from multiple countries. Sri Lanka has already established partnerships with other countries to combat piracy, drug trafficking, and terrorism. These partnerships should be strengthened and expanded to address other maritime security threats. Another critical aspect of a comprehensive approach to maritime security is the use of technology. Technology such as satellite imagery and remote sensing can be used to monitor maritime activity and detect illegal fishing, piracy and other threats. Moreover, investments in infrastructure, such as port facilities and naval bases, can enhance Sri Lanka's ability to respond to maritime security threats.

Sri Lanka's strategic location in the Indian Ocean makes maritime security a crucial concern. Piracy, illegal fishing, drug trafficking, human trafficking and terrorism are significant threats to Sri Lanka's maritime security. The Sri Lankan government has taken several steps to address these challenges, including the establishment of the navy, strengthening fisheries regulations and working with international partners. A comprehensive approach to maritime security, including cooperation with other countries and the use of technology, is essential to address these threats effectively. By working together, Sri Lanka and its partners can ensure the safety and security of its maritime interests for generations to come.

Legal and Governance Issues Related to Maritime Affairs in Sri Lanka

Legal and governance issues related to maritime affairs in Sri Lanka are of critical importance, given the country's location and significant maritime activity. One key challenge is ensuring compliance with international laws and regulations, including those related to maritime safety, security, and environmental protection. Sri Lanka has made efforts to develop its legal framework in this area, including adopting the International Ship and Port Facility Security (ISPS) Code and the International Convention on the Control of Harmful Anti-Fouling Systems on Ships. However, effective implementation and enforcement of these regulations remain a challenge. Another issue is the need to balance economic development and environmental sustainability, particularly in the context of the growing maritime sector. This requires effective governance mechanisms and decision-making processes, as well as cooperation between different stakeholders, including government agencies, the private sector and civil society.

Roles and Responsibilities of Sri Lanka Navy within Sri Lanka's Territorial Water

The Sri Lanka Navy is responsible for ensuring the security and sovereignty of Sri Lanka's territorial waters, which extend up to 12 nautical miles from the coastline. Within this area, the Navy has a range of duties and responsibilities, including maritime surveillance and enforcement, search and rescue operations and border control. The Navy also plays a critical role in combating maritime crime, including piracy, smuggling, and illegal fishing. In addition to these operational duties, the Navy is also responsible for maintaining a state of readiness to respond to any threats or emergencies within Sri Lanka's territorial waters. This includes maintaining a strong presence in key areas, such as ports and shipping lanes, and working closely with other government agencies, such as the Sri Lanka Coast Guard and the Department of Fisheries and Aquatic Resources. Overall, the Sri Lanka Navy plays a vital role in ensuring the security and prosperity of Sri Lanka's maritime environment and activities.

Future Prospects and Challenges for Sri Lanka's Maritime Affairs

The future prospects for Sri Lanka's maritime affairs are significant, given the country's strategic location in the Indian Ocean and the potential for economic growth and development in the maritime sector. Sri Lanka has already taken steps to develop its ports and maritime infrastructure, including the Colombo Port City project and the Hambantota port development. However, there are also significant challenges that must be addressed in order to realize the full potential of Sri Lanka's maritime sector. These include improving governance and regulatory frameworks, addressing environmental concerns, enhancing safety and security, and attracting investment and talent to the sector. Sri Lanka will also need to navigate geopolitical and strategic challenges, particularly in light of its relations with major regional and global powers in the Indian Ocean. Addressing these challenges will require effective leadership, strong partnerships between different stakeholders, and a commitment to long-term planning and development. The Sri Lanka Navy is a key player in the future of Sri Lanka's maritime affairs. The Navy's strategic location and capabilities make it an important partner for regional and global powers in the Indian Ocean. The Navy has taken steps to modernize and expand its capabilities in recent years, including the acquisition of new vessels and technology, and the development of specialized units, such as the Marine Battalion and Special Boat Squadron. However, the Navy also faces significant challenges in the years ahead, including the need to address capacity constraints and modernize its equipment, as well as the need to balance competing demands on its resources, such as responding to emergencies and combating maritime crime. The Navy will also need to navigate geopolitical and strategic challenges, including managing its relationships with key partners and allies in the region, such as India and China. Addressing these challenges will require strong leadership, effective resource management and a

commitment to continuous improvement and innovation.

Conclusion

In conclusion, Sri Lanka's maritime affairs are of critical importance in the changing Indian Ocean region. The country's strategic location and historic ties to the Indian Ocean make it a key player in regional and global affairs. While Sri Lanka has made significant strides in developing its maritime infrastructure and capabilities, there are also significant challenges to address, including legal and governance issues, environmental concerns, and geopolitical and strategic challenges. To realize the full potential of its maritime sector, Sri Lanka will need to balance economic development with environmental sustainability, enhance safety and security, and strengthen partnerships with key regional and global partners. The Sri Lanka Navy will also play a critical role in ensuring the security and sovereignty of Sri Lanka's territorial waters, and in addressing emerging challenges and opportunities in the maritime domain. By addressing these challenges and leveraging its strengths, Sri Lanka can position itself as a hub for maritime trade, investment, and cooperation in the changing Indian Ocean region.

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MARITIME STRATEGIES AND FUTURE MARITIME SECURITY EXPECTATIONS OF SRI LANKA WITH SPECIAL REFERENCE TO GALLE DIALOGUE

Sub Lieutenant Achintha Tharaka

Abstract

This journal will discuss importance of Maritime strategies for Sri Lanka and future maritime security expectations. While this study mainly focused on the significant historical evolution of foreign affairs, the strategical and economical importance of Sri Lanka to foreign powers. This flow would give a better understanding of the maritime importance of the Sri Lanka. This journal is conducted by referring to world famous articles, thoughts of an expert in foreign affairs and strategical studies and referring internationally publish researches.

Introduction

Sri Lanka has known as the "Hub of the Indian Ocean" idea serve as the cornerstone of its marine cooperation policy. This strategy has developed into the ideal framework for handling the myriad policy challenges that Sri Lanka is currently dealing with, whether they are related to trade, security, foreign direct investment, transportation, or even concern about urbanization and environmental degradation.

Importance of Maritime Strategies for Sri Lanka

Sri Lanka is an intermediate point on the oceanic trade routes between the East and West. Due to its geographical location, Sri Lanka can provide quick and efficient regional and international connectivity for supplies going to and from Asia. This is mainly because, the country is situated in the middle of all significant sea routes connecting Asia to the rest of the world. Due to its proximity to all major ports on the Indian subcontinent, particularly those of India, Sri Lanka is perfectly situated to be able to offer quick and simple access to the Indian subcontinent through its feeder network.

Sri Lanka's centre location of island makes it possible for it to accommodate vessels with a far lower deviation time than other ports in the Indian Ocean. Sri Lanka has historically been the center of trade between the East and the West because of its advantageous geographical position, providing markets all over the world. Important maritime channels that carry energy, raw materials and finished goods to and from some of the largest economies in the world are still all around Sri Lanka. Sri Lanka serves as a gateway to the Indian subcontinent because of its location in the middle of vital economic routes.

The island is positioned along routes from the Strait of Hormuz, which is used to carry the majority of Asia's oil supply, and roughly halfway between the Strait of Malacca and the Suez Canal, two key maritime choke points to the East and West. In addition to energy, the sea lanes surrounding Sri Lanka are the main route for all other goods passing through the Suez Canal. Raw materials are often shipped through these routes via the Suez Canal to Asia and finished goods like apparel and electronics are shipped back.

Since large ships cannot sail through the Palk Bay due to a collection of islands, international lines are compelled to stop at Sri Lanka's ports instead of turning India's southern coast into a regional shipping hub. In comparison to other ports in the region, Sri Lanka's ports are situated quite close to the main shipping channels that connect the east and west. Ships visiting the Port of Colombo experience shorter periods of divergence from the primary commerce routes, as opposed to prolonged hours of divergence while visiting other ports in the vicinity.

Sri Lanka has a wide feeder network all around the region in addition to being close to crucial sea links. Smaller ships transship cargo from large ships through Sri Lanka to other ports in the region. The extensive feeder network enables quicker and more cost-effective regional product distribution. Additionally, compared to shipping to Europe and America, shipping goods from Singapore to the Colombo Port takes less time. Cargo from Bangladesh (Chittagong) and India (Calcutta, Chennai) headed for Europe can save transit time by around 5 days when routed via Colombo rather than Singapore. (Ministry of Foreign Affairs, 2016).

Historical Evidence of Sri Lanka Foreign Affairs and Strategies

The Mahavansa claims that ancient maritime trade routes had a significant role in the transmission of Buddhism from India to Sri Lanka. Numerous other pieces of evidence have shown that Sri Lanka's strategic geographic location has enabled maritime transactions in terms of commercial and cultural exchanges since at least the second century BCE. The importance of the country to international trade at the period is evident from the globe map drawn by Ptolemy of Alexandria.

Sri Lanka's ancient marine trade has also drawn attention to the growing trade associated with the "maritime silk route," which linked Europeans, Arabs, Indians, and Chinese. The excellent maritime engineering used in ancient Sri Lanka for the construction of ships, ports, and other maritime infrastructure has also been mentioned in this body of research. Throughout its colonial rule by the Portuguese, Dutch and British, respectively, Sri Lanka played a significant role in regional maritime trade.

Post-independence Sri Lanka firmly backed up keeping things as they are in the Indian Ocean and keeping the maritime domain open. At the 1951 San Francisco Conference, Sri Lanka's finance minister, J.R. Jayewardene, declared, "We are not concerned with endorsing this bloc or that bloc. We value maintaining international peace".

Furthermore, Sri Lanka was able to establish its maritime boarder in the Palk Strait, Gulf of Mannar, and Bay of Bengal by signing the "Sri Lanka-India Agreement on the Boundary in Historic Waters" in 1974, providing the country with a legally grounded marine security. Sri Lanka has been successful in securing a significant resource base that might strengthen the country's economy and general security, including a territorial sea area of 21,500 km^2 and an Exclusive Economic Zone (EEZ) of more than 517,000 km$^{2.}$

Sri Lanka should naturally take on a larger role in the Indian Ocean given its history of maritime trade, favourable location, and broad maritime entitlements. Maritime trade, according to academics, has the potential to make the Indian Ocean a new centre of global growth. Although only 13.1% of global trade occurs in the region, it is currently home to 35% of the world's population. This demonstrates that a country's trade has a significant impact on its rate of economic expansion. This argument is particularly persuasive for Sri Lanka because some of the country's most lucrative economic sectors depend on marine trade, particularly port services relating to the transportation, transshipment, and other services of container goods. The Colombo Port is ranked 13th globally according to the Drewry Port Connectivity Index.   With a joint venture with China Merchants Ports Holdings, Sri Lankan port development has also reached Hambantota, and with Japanese development aid, it may soon reach Trincomalee as well.

Sri Lanka also served as the chair of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), which was previously headed by Bangladesh. This has provided an opportunity to establish business ties that can aid maritime businesses and enhance cooperation on marine environment conservation. As an IORA member state, Sri Lanka may also play a vital role in promoting maritime cooperation projects that seek to maintain the Indian Ocean's present condition and yield positive outcomes for both regional and extra regional governments. Sri Lanka may potentially follow the rapidly gaining "marine city" concept, which would greatly boost trade and tourism by presenting Sri Lanka as an enticing site with incentives for foreign businesses.

Shifting of Geopolitical Power within the Region

When taking into account geopolitical developments outside of Sri Lanka, the University of Colombo claims that the Indian Ocean is undergoing complicated geopolitical upheavals. For the region to remain peaceful and

secure, the balance of power between minor and big powers becomes essential. This justification fits with the "global power shift" that has been observed in a number of tactical marine occurrences. Of course, it is yet to be seen if these adjustments will be able to help South Asian countries overcome the drawbacks of the "big-brother attitude" toward India. In order to effectively solve this issue, India's "Neighborhood First" policy has been specifically created to lessen strategic mistrust among its neighbors.

Another important power shift is the rising US interest in the Indian Ocean, which is evident from the use of the term "Indo-Pacific." This development has led to increased security cooperation between the US, Japan, Australia, and India as well as stricter surveillance of the Straits of Malacca and Straits of Hormuz in order to protect the security of important chokepoints. The ongoing relevance of China's Belt and Road Initiative (BRI), which has already made large financial investments in the region and created a strategic footprint for China in the Indian Ocean.

In response to the enormous economic potential of the Indian Ocean and these growing geopolitical changes, Sri Lanka has begun putting together a well-thought-out maritime policy. Such a strategy is essential to defending Sri Lanka's national interests as it faces strategic rivalry between the world's superpowers in the Indian Ocean and investigates methods to sustain regional peace and stability to ensure its economic growth and future prosperity. (Wakkumbura, 2018)

Impacts During Covid-19

Small island states like Sri Lanka must now reconcile their trade practices with their interdependence on surrounding Asia-Pacific nations because of the Covid-19 pandemic's exceptional consequences.

The creation of various regional groupings marked the beginning of greater economic integration within the Asia-Pacific area several years ago. Three of these regional groups ASEAN (Association of Southeast Asian Nations), SAARC (South Asian Association for Regional Cooperation), and RCEP (Regional Comprehensive Economic Partnership) developed a framework for an Asia-Pacific regional order in the area of trade.

The development of Sri Lanka will be significantly aided by revised economic policies. Colombo's economic strategy will need to be coordinated to prevent its engagement with ASEAN and RCEP from jeopardizing its relations with SAARC. A paradigm shift in the world order will result from the power dynamics between larger groups, such as the 15-member RCEP or the 10-member ASEAN, and the smaller groupings in the twenty-first century. Sri Lanka will be compelled to develop deeper ties with India as a result of the shifting geopolitical and economic conditions affecting the Asia-Pacific region as a whole.

In recent years, Sri Lanka has come to rely heavily on SAARC as a trading venue. Sri Lanka's commerce with its neighbors has greatly increased because of the South Asian Free Trade Area (SAFTA) agreement, giving the nation far better access to the region's 1.6 billion consumer market. A foreign strategy based on mutual dependence has been established as a result of the trade links between Sri Lanka and SAARC. The SAFTA and ISFTA (Indo-Sri Lankan Free Trade Agreement) gave business diplomacy some momentum. The sector of small and medium-sized businesses has seen the most significant economic growth in the area.

The absence of major foreign direct investment, however, is impeding economic growth in some South Asian nations. In this regard, Sri Lanka can leverage regional trading platforms like SAFTA, ASEAN, and RCEP to access Asia-Pacific consumer markets.

For Colombo, ASEAN is essential to achieving its main objective of opening up East Asian markets and forging business ties with neighboring nations. Since the Bandung Summit in 1955, Sri Lanka has had good relations with nations in the region. ASEAN has supported this partnership's expansion in recent years. Agreements that are advantageous to both parties, like the ASEAN-India Free Trade Agreement, are also bringing Sri Lanka and ASEAN closer together. This would significantly increase the future contributions of Sri Lanka's and India's other recently discovered regional trading partners in East Asia.

The RCEP countries and Sri Lanka's marine cooperation will be a game-changer in Colombo's efforts to maintain regional stability and boost its economic development. Future interactions between Sri Lanka and other RCEP members may be shaped by the coincidence of strategic objectives. The RCEP countries are crucial to Sri Lanka's port diplomacy and can give it access to sizable markets.

Similar to how it has affected other large and small countries throughout the world, the Covid-19 pandemic has had a substantial influence on Sri Lanka's economy. Countries had to work quickly to come up with solutions to lessen the crisis' effects. Regional alliances can make it more likely that severely export-reliant nations like Sri Lanka will be able to recover from the pandemic's economic effects. In the economic despair that has gripped so many other tiny countries as they attempt to deal with the pandemic, regional groups and agreements of this like are a bright beacon of hope for the Sri Lankan economy.

The parties' decision to fortify the current power matrix will determine the likelihood of collaboration between Sri Lanka and ASEAN, RCEP, and India. Decision-makers must consider all options to improve trade relations and promote business in Sri Lanka(Kundu, 2021).

Future Maritime Strategy of Sri Lanka

The Sri Lanka Navy (SLN) has been redefining itself ever since the country's protracted conflict with Tamil Tiger separatists came to an end in 2009 in order to develop the operational agility required to address today's complex defense and security issues. "Sri Lanka Navy's Maritime Strategy 2025," a plan for achieving this objective, was announced in November 2016 during the navy's Galle Dialogue conference in Colombo. Lax security in Sri Lanka's marine domain resulted from the SLN's lack of equipment, notably larger ships. As a result of this situation, organized organizations and none state players have arisen and are currently exploiting Sri Lanka as a hub for global organized crime. (Gardian, 2017).

The Navy made a point of thinking about its long-term responsibilities as the sea-going branch, which in due course must safeguard the massive 1,738,062.24 km^2 Search and Rescue territory as well as the 200 nautical mile Exclusive Economic Zone. The Sri Lanka Navy must purchase massive ships and boats outfitted with cutting-edge technology if it is to realize its ambition of developing into a force that can travel to remote ocean regions. The "Sri Lanka Navy's Maritime Strategy 2025" makes it very clear that the Navy should have 20 ships by 2025.

The Sri Lanka Navy should continuously work to preserve a naval strategy as required by the State in order to carry out its assigned role. The ocean region surrounding Sri Lanka is home to some of the key shipping channels that span the Indian Ocean. The SLN is in charge of making sure that the particular areas and their effectively operate under the surveillance: - Maintaining Freedom of Navigation in Sea Lines of Communications; - Preventing Maritime Pollution; - Preventing Poaching and Smuggling; - Preventing Sea Piracy; - Protecting Organizations Exploiting Ocean Resources; - Ensuring Maritime Safety; - Salvage and Search and Rescue; - Support for Maritime Research.

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BOOK REVIEW - ONE HUNDRED DAYS : THE MEMORIES OF THE FALKLANDS BATTLE GROUP COMMANDER

Sub Lieutenant Kumara Senevirathna
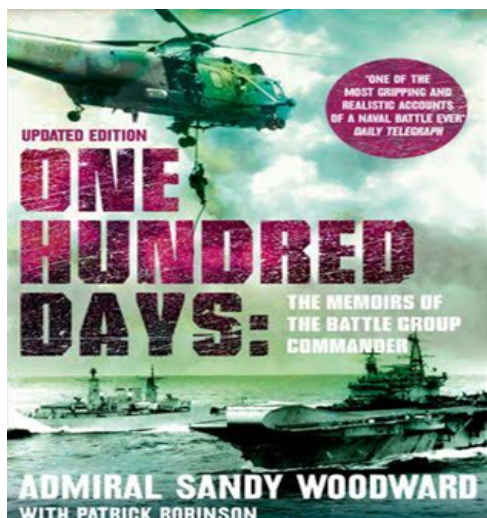
About Book

This book is based on experience, memories of Admiral Woodward's during the Falkland war. After the Argentina invaded Falkland Islands, British armed forces were ordered to sail to the south Atlantic on 5th April 1982. It was a 6950 mile away from home. With no advantage in air or on land and vast distance, many of them felt victory was a quite difficult. As a battle group commander Admiral Sandy Woodward was a in charge of the front-line. He led this battle 100 days of conflicts through the tragic losses of ships and men to defeat of the Argentinian Navy and retaking of the Falkland Islands.

This book was published in 1992 and second and third editions were published in 2003 and 2012. Patrick Robinson was co-author of this book. The details of book are given below.

- Name: One Hundred Days: The memories of the Falklands battle group commander
- Author : Admiral Sandy Woodward with Patrick Robinson
- Publisher: Harper Collins Publishers, London
- ISBN : 978-0-00-743640-8
- Number of Pages: 511
- Language: English

About the Author of the Book

Admiral Sandy Woodward was senior Royal Navy officer and he commanded the Task force of the Falklands war. He was born on 1st May 1932 and educated Stubbington house school. Then he started naval carrier at the Britannia Naval College, Dartmouth in 1946. He became a submariner after passed the submariner command course and appointed his first command in T class submarine. He commanded in Royal navy various classes of ships as well as he was an instructor. In 1981 he was promoted to Rear Admiral and appointed as Flag Officer First Flotilla. During the Falkland war he commanded HMS Hermes aircraft carrier and Task force in 1982. Admiral Woodward was knighted for his bravery service in the Falkland war.

Summary of the Book

This book provides not a story but bulleted guidelines for a leader who wants to be victorious in war. He laid out principles of engagement in war, of behaviour and qualities of the military leader who must lead the forces to battle and be victorious. This book contains eighteen chapters as listed below.

- Chapter I: The day they hit HMS Sheffield
- Chapter II: The submariner
- Chapter III: Argentina invades
- Chapter IV: South to Ascension
- Chapter V: 'Weapons tight!'
- Chapter VI: The final approach
- Chapter VII: 1 May- the War begins
- Chapter VIII: The bells of hell
- Chapter IX: The silence of HMS Sheffields
- Chapter X: The end of the trail for Narwal
- Chapter XI: Glasgow's Bomb
- Chapter XII: Talking Trees and Etendards
- Chapter XIII: Night Landing
- Chapter XIV: The Battle of 'Bomb Alley'
- Chapter XV: Calamity for Coventry
- Chapter XVI: The Marine Will have to Walk
- Chapter XVII: Port Unpleasant
- Chapter XVIII: Welcome Home

The Day They Hit HMS Sheffield

On Tuesday, 4 May 1982. Britain was at war in the South Atlantic. Lieutenant Commander Augusto Bedacaratz and Lieutenant Armando Mayora were specialized senior aviators specially selected to undertake this important mission by Argentina using the Extended (Dassault etendard is a strike fighter aircraft manufactured by French aerospace company dassault aviation) with Exocet system(anti-ship missile was built by France). British hoped that they were not equipped with these complicated Weapon system. But Admiral Woodward was aware it will be a threat for his air craft carrier. Bedacarratz and mayor lifted etendard early morning and flew under the British long range radar. It was a very difficult to identify the enemy target because bad weather. etendard launched the exocet and it was struck the starboard side of HMS Sheffield. She was a picket ship of the task group. After that they abandon ship and crew was taken off to another Frigate. Sheffield was the first Royal navy ship to be hit by an enemy missile since the Second World War almost forty years back.

The Submariner

After completion of education in Stubbington house prep school he got the scholarship to Royal Naval College, Dartmouth known as HMS Britannia. During cadet timing he was sent to HMS Devonshire for training. He learnt professional training and all the ship works washing, polishing, scrubbing, scraping, chipping, hammering when onboard. After four years of training he was graduated and passed out as a young officer. Then he completed junior officer war course in Royal naval college, Greenwich. He selected voluntarily specialized in submarine and he was sent to HMS Dolphin for further training. He commanded and specialized in different class of submarines as well as nuclear powered submarines. He involved with the submarine designs, refit and manufacturing processes.

Argentina Invades

In 7th July 1981, He was promoted to Rear Admiral by Her Majesty Queen Elizabeth and appointed as a Flag Officer First flotilla. He was one of only three sea going Admirals in Royal navy. There were 22 destroyers and frigates under his command. After that he could able to spend more days at sea than ever. He joined Mediterranean for Armila patrol for one month. During that one month he conducted exercises with various navies Greek, French, American, and Omani.

South to Ascension

Admiral Woodward started to sail Ascension. He was planned everything what they will do after reach the Falkland island, what is the formation he should maintain for protection of the Amphibious group in company which direction they should approach in which part of the island and possible landing sites.

Because he didn't have any information regarding Argentine submarines stationed, underwater mine fields, what kind of aircraft approach tactics. It was a difficult task for Admiral Woodward, because British intelligence had never targeted on Argentina. He addressed to his crew that they are going to battle and be prepared for that.

Weapon Tight

Their plan was enter from east at night and launch a sea harrier strike on Stanley airstrip at dawn morning. And day time shell the Argentinian shore and send two anti-submarine frigates inshore to search for Argentinian submarines, after send the Special Forces to ashore. At the night they detected air target from two hundred miles away from them, suddenly they launched sea harrier, after that pilot inform it is a Boeing-707 of Argentinian air force. Next day also they detected the same target Admiral was in ready to fire because of his thought Argentinian air force was searching their position. But finally they identified it was a Boeing-707 of Brazilian airline. He ordered no to fire.

The Final Approach

Their arrival date was on day behind the planned due to bad weather condition. On 27 April they were less than thousand miles from the exclusion zone of the Falkland Islands. By 28 April, offshore areas around the Falkland had been divided into four quadrants for attack as per the plan. When the 29 April They were five hundred miles away from the zone and They completed their refuelling and replenishing supplies. Later tactical picture was becoming clear because they were one hundred fifty miles away from Falkland islands.

1 May-The War Begins

They planned to strike Port Stanley airfield and the same time hit to strip at Goose Green using sea harriers. They made twelve sea harriers from HMS Hermes and divided into three groups. First wave against for Port Stanley airfield for anti-aircraft defence system and second wave for damage to the runway and same time hit to the airfield at Goose Green. Pilots could able to destroy air fields and Argentinian ground force. They lost few sea harriers also during this strike.

The Bells of Hell

After the first attack of 1st May, Argentina launched the counter attack for the British Battle group. It was led by Admiral Anaya's fleet. It consists with air craft carrier and five anti-aircraft destroyers. Admiral Woodward prepared his fleet against for that as well as he prepared his torpedoes for sudden submarine attack. Because he could not able to predict what kind of attack Argentina will launch.

The Silence of HMS Sheffield

After the counter attack of the British task force, Argentinian fleet turn back. Admiral Woodward was expecting again attack from Argentina. He guessed Argentina must have decided we were not with the landing force. After that he memorized what will happen somehow Argentinian navy and air forces broke through our defences and ruin his day. It would have lost the battle.

The End of the Trail for Narwal

General warfare officer Captain Peter Wood head identified Narwal fishing trawler again, they warned ten days ago before they arrived to zone. Admiral suddenly realized they were reporting his exact position day and night back to Argentinian air force. With the same time he understood this is the same kind of situation as Brazilian airliner to stop it he fired some 30mm canons shots across above her bow. Admiral Woodward told to himself what are the probabilities? It is not most sensible place to fishing this week, if they had not heard it on the radio, they had heard it direct from Alacrity. So if she was not fishing, then surely she is trailing us. Then she will need professionals and communication reshipments. Admiral fairly believed there will be civilian on board Narwal. It was really threat for his fleet because onboard there are Argentinian naval personals. Then he gave permission for bombardment. But it didn't fused but it hit the Narwal killing one crewman and making large hole in the ship. After that Special Forces team got aboard and found Argentinian Lieutenant Commander Gonzales LIanos and thirteen fishermen with documentation, code books, charts and military radios. Narwel was not an innocent fishing vessel.

Night Ianding

At the night they started to disembark the soldiers to the Falkland Island. Therefore they used Landing craft alongside with the ship, but it was a very difficult because of the rough sea. Sometime sea wave raised more than 15 feet. For disembark soldiers the use a helicopter first they loaded SAS and SBS soldiers, unlikely it was crashed into sea for unknown reason. Seemly it was a mechanical failure. Helicopter sank too soon. Only eight soldiers were rescued. They lost twenty two soldiers that belongs to special group.it was a one of the saddest moment of the whole war. Admiral Woodward was not able to afford that lost. Later night Admiral was instructed by HQ for the landing using his local judgements.

The Battle of Bomb Alley

British Harrier pilots discovered Argentinian helicopter are on Mount Kent after week later. They wiped out quickly on the ground. But same time they were shot by Argentinian army ground fire. They lost harrier pilot and two royal marines. As a counter attack Argentina used air strike. One bomb hit the deck

and injured few sailors.

Calamity for Coventry

On 21 May, British fleet was attacked fiercely by Argentinian fighter aircraft, that attack start morning and almost continuously throughout the afternoon. British lost twenty sea harriers and HMS Coventry during this attack. This attack Argentina used Israeli built supersonic Daggers.

Conclusion

Readers of this book will understand when to fight and when not to fight. They will be able to take wise decision and will select their conflict/battle smartly. They will understand how to deceive the enemy and appear weak when you are not strong and vice versa. Significance of knowing your strengths and weaknesses is illustrated very well. As well as it shows how to attack defensively than offensively because you are alone from any other assistance (land or air).

OPERATION OPTIMIZATION OF
NAVAL FUNCTIONING SYSTEM IN SRI LANKA

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Abstract

Sri Lanka has nearly 1,320 km of coastline, giving it a significant marine domain. The navy has an important role to play in protecting the country's territorial seas, thwarting maritime threats, and bolstering a wide range of nautical pursuits. To that end, this article will go into the study issue of operational optimization of navy functioning in Sri Lanka with an eye towards improving marine safety, effectiveness, and responsiveness. Sri Lanka has to perform a thorough evaluation of maritime hazards in order to optimize naval operations. Transnational crimes such as piracy, smuggling, and illicit fishing fall under this category. Sri Lanka's marine sector has significant risk factors and vulnerabilities that may be detected by analyzing historical data, intelligence reports and developing trends. This information is crucial for formulating plans and allocating assets.

Improving naval resource allocation requires sophisticated operational planning models. It is important to strategically distribute patrol boats, planes, and surveillance equipment depending on parameters including threat intensity, geographic dispersion, and reaction time. The effectiveness and efficiency of naval operations may be improved with the use of cutting-edge algorithms and decision support systems. Sri Lanka's navy may greatly benefit from modern technical developments. Existing surveillance systems may be evaluated for flaws and room for development. By working together, radar systems, UAVs, and marine sensors, it is possible to greatly improve situational awareness, early warning capabilities, and threat identification. Data analytics, AI, and machine learning may all help shed light on issues and bolster decision-making when used together. When it comes to the Sri Lankan navy, the best results can only be achieved by close cooperation between the navy, coast guard, customs, and port authorities. Joint drills, information sharing methods, and open lines of communication may all improve operational efficiency. Additionally, investigating potential avenues of regional collaboration with nearby nations helps strengthen international responses to marine issues.

Maximizing naval efficacy requires substantial funding for training programs and skill development efforts for naval personnel. Focus on strengthening information collecting, marine law enforcement and crisis management capacities. Sri Lanka's naval forces may benefit from increased professional development, experience, and preparedness made possible via knowledge sharing, international alliances, and training exchanges. For better marine safety, productivity, and reaction times, Sri Lanka's navy must be optimized for operation. Sri Lanka can strengthen its naval forces and secure its maritime domain by undertaking

detailed threat assessments, adopting effective operational planning models, integrating sophisticated technology, encouraging interagency cooperation and investing in training and human resource development. This study sheds light on key issues and makes important suggestions for improving marine security, economic growth and ecological sustainability in Sri Lanka.

Keywords: Naval resource allocation, maritime domain, ecological sustainability.

Introduction

Sri Lanka has an important role in regional and international maritime affairs because of its strategic position in the middle of the Indian Ocean. Sri Lanka's marine domain includes extensive areas of territorial seas and exclusive economic zones due to the country's long coastline (approximately 1,300 km). The nation's naval forces have been entrusted with crucial tasks, including the protection of these seas, the battle of maritime threats, and the smooth operation of marine operations. Sri Lanka's marine security, reaction capabilities, and maritime interests may all be strengthened by improving the efficiency with which the navy operates. Proactive measures are required to guarantee the efficient protection and administration of Sri Lanka's marine domain in the face of a constantly shifting array of maritime threats, including but not limited to piracy, smuggling, illicit fishing and transnational crimes.

The study of threats, allocation of resources, and integration of technology, interagency cooperation, and development of human resources are just few of the many elements that need to be considered while trying to optimize naval operations. By improving in these areas, Sri Lanka will be able to strengthen its navy, better deal with new challenges as they arise and protect its national interests at sea. Optimization of operations relies heavily on threat assessments. For successful policies and resource allocation, it is crucial to conduct a comprehensive evaluation of the many marine hazards Sri Lanka faces. When we examine the marine sector in the context of historical patterns, new dangers, and vulnerabilities, we may zero in on problem areas and devise specific solutions. For effective use of naval assets, it is crucial to optimize operational planning and resource allocation. Strategic placement of patrol boats, planes, and surveillance equipment is essential, taking into account variables including threat intensity, area covered, and expected reaction time. Maximizing the impact of naval operations, maintaining effective coverage and optimizing resource utilization all rely heavily on cutting-edge algorithms and decision support systems. Optimization in operations is driven in large part by the combination of advanced technology and monitoring systems. Existing surveillance infrastructure may be evaluated and improved to fill in the blanks and spot emerging tech trends. Sri Lanka can strengthen its situational awareness, early warning capabilities and threat detection capabilities by combining radar systems, unmanned aerial vehicles (UAVs), and marine

sensors. Data analytics, AI, and machine learning approaches provide naval forces with ever more powerful insights and facilitate well-informed decision-making.

Cooperation between different government agencies and across different regions are also essential to the success of naval operations. Sri Lanka's navy, coast guard, customs, and port officials must work together to improve efficiency, exchange critical information and swiftly react to new marine threats. As a result, encouraging regional collaboration with neighboring nations may strengthen collective efforts to handle shared marine concerns, provide greater security, and promote stability in the wider maritime domain. Developing and investing in human capital is a crucial part of optimizing business operations. Improving the Navy's ability to do its job requires providing its sailors with training in information collecting, maritime law enforcement, and crisis management. The professionalization and skill of Sri Lanka's naval forces have been greatly bolstered via knowledge sharing, international collaborations, and training exchanges, allowing them to effectively and rapidly respond to new threats. In conclusion, strengthening marine security, improving operational efficiency, and enhancing reaction capabilities all need operational optimization of the Sri Lankan navy. Sri Lanka can strengthen its naval forces and secure its maritime domain by performing in-depth threat analyses, adopting efficient operational planning models, integrating cutting-edge technology, promoting interagency cooperation, and investing in training and human resource development. The goal of this study is to aid in the protection, growth and long-term viability of Sri Lanka's marine industry by providing useful insights and suggestions.

Review of Literature

Optimizing naval operations requires a holistic strategy that considers threat analysis, risk assessment, operational planning and resource allocation. Countries like the United States Coast Guard, the British Royal Navy, and the European Union prioritize coordination among government agencies and regions to ensure effective maritime security and protect their interests. Singapore's Maritime and Port Authority (MPA) utilizes advanced technology to enhance maritime domain awareness, early warning capabilities, and threat detection. The European Union's Maritime Security Strategy prioritizes cooperation between member states in areas like marine surveillance, law enforcement, and border control.

Investing in training programs and human resource development is crucial for naval personnel to adapt to changing threats and operate with professionalism and knowledge. The Royal Australian Navy (RAN) invests in training programs and human resource development to enhance naval personnel's skills and operational preparedness. Task analysis and risk assessment are essential for naval forces to recognize and reduce maritime threats. Technology advances like data mining, machine learning, and geographic information systems (GIS)

help handle massive amounts of data, enabling effective threat analysis and risk assessment. The Indian Navy's "Mission Based Deployment" strategy focuses on increasing adaptability and responsiveness while minimizing resource waste.

Enhanced marine domain awareness and threat detection capabilities are made possible through the integration of cutting-edge surveillance systems and technological advancements. South Korea's "Maritime Safety and Security Information System" (MSSIS) combines data from radars, cameras, and AIS (Automatic Identification System) to improve threat detection and response. Interagency collaboration and regional cooperation are critical for maximizing naval functioning. Jensen and Smith's (2018) findings emphasize the need for coordinated efforts across marine organizations, open communication and standard operating procedures. China's "Yaogan" program demonstrates the importance of interagency cooperation in maritime surveillance.

In conclusion, optimizing naval operations requires a holistic approach that considers threat analysis, resource allocation and interagency collaboration. By learning from past experiences and implementing best practices, countries like Sri Lanka can enhance their naval capabilities and defend their maritime domain. Investment in training programs and human resource development is crucial for improving naval personnel's skills, maintaining operational readiness, and responding to new and emerging threats. Lemaître et al. (2018) found that naval forces need intensive training programs, scenario-based training, simulated exercises, and actual fieldwork to prepare them for various operational situations. The British Royal Navy's Flag Officer Sea Training (FOST) program is a good model for comprehensive training and advancement opportunities for its personnel.

The Sri Lankan navy uses various methods to maximize operational efficiency, such as operational planning, Decision Help Systems (DSS), Geographic Information Systems (GIS), simulation, risk assessment and threat analysis, interagency coordination and collaboration, and training and development programs. These methods help optimize operations, speed up reaction times, and defend the country's maritime interests. Since the unique challenges and necessities of Sri Lanka's marine environment, these methods must be modified and adapted accordingly. Analyzing threats, weighing risks, optimizing the deployment of naval assets, enhancing awareness and threat detection skills through technology and surveillance systems and facilitating information sharing and coordinated responses to marine risks are essential for successful missions.

Numerous nations, including the USA, UK, China, and South Korea, have implemented these ideas via naval tactics designed to maximize efficiency. When applied to Sri Lanka, these tactics have the potential to improve naval efficiency, fortify maritime security and defend the island nation's maritime interests.

By undertaking detailed threat assessments, using sophisticated technology, encouraging interagency cooperation and investing in training and development programs, Sri Lanka can enhance its naval capabilities and ensure an effective response to new threats in its maritime domain.

The Context Related with Sri Lanka

Sri Lanka, or the Democratic Socialist Republic of Sri Lanka as it is formally called, is a country in South Asia that consists of an island. Sri Lanka's navy functioning and operational optimization are heavily influenced by the country's extensive backdrop, which includes its rich history, diversified culture and important maritime position. Sri Lanka is a small island republic in the Indian Ocean, at the meeting points of important sea routes from Europe and the Middle East to Asia. Sri Lanka's strategic position makes it a vital port for international trade, transshipment, and military operations. Areas of strategic interest, EEZs, and territorial seas all make up a country's maritime domain.

Multiple threats to its naval integrity and effectiveness from the sea need Sri Lanka to optimize its operations. Problems in this area include piracy at sea, illicit fishing, smuggling drugs and people, and dangers to national security. Sri Lanka's naval forces are essential in countering these threats and protecting the country's right to exercise sovereignty over its maritime territory. The dynamics of the area and relationships with neighboring nations shape Sri Lanka's marine backdrop. Sri Lanka's marine domain is strategically important because of the presence of key regional countries like India and China. Keeping these diplomatic and economic links is important to the government because it influences naval operations, resource allocation, and maritime security coordination. The economic significance of Sri Lanka's marine domain cannot be overstated. Colombo Port, Hambantota Port, and Trincomalee Port, among others, play crucial roles as transshipment and commerce hubs for the country. Sri Lanka's economic development and regional integration initiatives rely on the navy's ability to carry out its duties effectively, particularly in the areas of port operations, marine connectivity, and trade flow facilitation.

When it comes to defending Sri Lanka's territorial waters and preventing foreign incursions, the country's naval forces are indispensable. There is a lot of marine life, fisheries and potential offshore resources inside the nation's Exclusive Economic Zone (EEZ). In order to secure these resources from illicit use and to use them sustainably for future generations, operational optimization is required. Sri Lanka is committed to regional cooperation and partnerships to combat threats to marine security and advance shared interests. Indian Ocean Rim Association (IORA) and South Asian Association for Regional Cooperation (SAARC) are two of the regional groups that the nation is a part of. By working together with other countries in these ways, Sri Lanka is better able to share intelligence, conduct joint drills, and respond to shared marine dangers. Internal

security concerns also have an impact on how well Sri Lanka's navy operates and can optimize its operations. Internal conflicts in the past have prompted a need for all-encompassing marine security measures. Maintaining internal peace and protecting the country from external dangers calls for close cooperation and coordination between the navy, coast guard and other law enforcement authorities.

Sri Lanka's position, maritime security difficulties, regional dynamics, economic significance, sovereignty issues, resource protection, regional cooperation and internal security considerations are all important parts of the bigger picture. For optimal naval performance in Sri Lanka's maritime area, it is crucial to understand and handle these variables. Sri Lanka is an island republic off the southern coast of India in the Indian Ocean. As a result of being situated on key international trade routes, it is of great maritime significance. Due to its strategic location, Sri Lanka serves as a vital transshipment and commercial maritime center between Europe, the Middle East, and Asia. In order to successfully handle marine problems and preserve its interests, the nation must optimize its naval functioning, which is shaped by its geographical location. Sri Lanka confronts a number of maritime security concerns that threaten its ability to operate at peak efficiency in the navy. Piracy at sea is one of these problems that threatens commercial shipping in the area. The nation also has a problem with drug trafficking, which uses its marine territory as a conduit for illegal substances. Sri Lanka's coastlines are often utilized as a destination or transit point for illegal migration, hence human smuggling is another issue of concern. The maritime ecosystem and the livelihoods of local fishermen are threatened by illegal, unreported and unregulated fishing. Furthermore, the Sri Lankan navy is responsible for protecting the country from any threats to its independence, territorial integrity, or national interests.

Sri Lanka's marine landscape is influenced by its close relationships with neighboring nations, such as India and China. These relations affect naval operations, resource allocation, and joint maritime security measures. The country's marine domain is crucial for its economy, with ports like Colombo Port, Hambantota Port, and Trincomalee Port facilitating international commerce and transshipment. A well-functioning navy is essential for the success of these ports, continued marine connection and economic expansion. To maximize economic advantages, Sri Lanka must implement operational optimization measures, such as efficient resource allocation and streamlined logistics. The Exclusive Economic Zone (EEZ) in the Indian Ocean is home to marine life and promising offshore resources, and the navy's efficiency depends on several factors. To ensure the continued availability of vital marine resources for future generations, operational optimization plans must prioritize resource conservation and sustainable management. Sri Lanka is committed to regional cooperation and partnerships to combat threats to marine security and advance shared interests. Sri Lanka works with its neighbors to the east and south to combat shared marine dangers

by participating in regional organizations like the Indian Ocean Rim Association (IORA) and the South Asian Association for Regional Cooperation (SAARC). Sri Lanka hopes to increase marine domain knowledge and build efficient procedures for addressing common concerns via regional collaboration and partnerships.

Conclusion

In conclusion, there is a wide range of elements that affect Sri Lanka's maritime dynamics, all of which are part of the overall context connected to navy functioning and operational optimization. Sri Lanka's strategic location at the intersection of key international maritime routes makes it an important center for international trade. Sri Lanka is in a great location for trade and travel, but the country also faces a number of marine security threats due to its proximity to major shipping lanes. Sri Lanka's marine setting is further shaped by regional factors, especially partnerships with neighboring nations like India and China. To maintain an efficient navy and maximize its operations, it is essential to strike a balance between national interests, diplomatic concerns and partnerships with regional partners.

It would be foolish to minimize the significance of Sri Lanka's marine domain to the country's economy, since the country's ports are the entry points for most of the world's commerce. If Sri Lanka wants to reap the full economic advantages of its marine industry, it must use operational optimization measures that prioritize effective allocation of resources, simplified logistics, and facilitated trade flows. Sri Lanka's comprehensive context includes the importance of sovereignty and the conservation of resources. It is crucial for sustainable use and conservation that its maritime resources, including as marine biodiversity and potential offshore resources, be protected. Sri Lanka's Exclusive Economic Zone is heavily patrolled and protected by the country's naval forces, who play a crucial role in preventing any unlawful operations that might threaten the area's resources for future generations.

Information exchange, joint drills, and coordinated responses to common marine hazards are made possible through regional collaboration and alliances via venues like the IORA and SAARC. Sri Lanka's dedication to promoting a safe and secure marine environment in the Indian Ocean is shown by its participation in regional efforts. Law enforcement organizations must work together to provide internal security in light of ongoing disputes and the need of preserving internal peace. Surveillance systems, patrols, and protecting key infrastructure are all examples of effective coastal security measures that help fight terrorism, stop criminal activity, and protect the legitimacy of marine commerce. In conclusion, Sri Lanka can improve its maritime security, safeguard its maritime interests, and contribute to regional peace by recognizing and addressing the full context connected to its navy functioning and operational optimization. Sri

Lanka can successfully face the challenges and seize the opportunities in its maritime domain through operational optimization. Strategies that take into account risk assessment, resource allocation, integrating technology, interagency interaction, development of skills and knowledge, as well as cooperation with regional partners.

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