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EDITORIAL NOTE

We are excited to announce the publication of the second issue of Volume 4 of the Sri Lanka Journal of Social Sciences and Humanities (SLJSSH). As a biannual interdisciplinary journal, SLJSSH is committed to promoting research in the social sciences and humanities. We encourage scholars to submit research that is theoretical, empirical, policy-oriented, or practitioner-focused, contributing to the global academic conversation. Our goal is to provide a platform for diverse research and foster collaboration among experts across the social science field.

Each submission to SLJSSH undergoes a rigorous double-blind peer-review process to ensure the highest quality. The Editorial Board thoroughly reviews all submissions to uphold the journal's standards. As a cited journal in the Sri Lanka Journals Online (SLJOL) database, SLJSSH has seen steady growth in readership, submissions, and citations. This reflects our commitment to impactful research.

The success of SLJSSH is a result of the collective efforts of our editorial team, reviewers, authors, and the ongoing support of the Dean of the Faculty of Social Sciences and Languages at Sabaragamuwa University of Sri Lanka. We deeply appreciate their guidance, hard work, and dedication.

This issue includes research on vital topics for the socio-economic development of emerging regions. The study of China's influence on Africa's global value chains offers valuable insights into economic resilience and trade partnership opportunities. The analysis of state debt and GDP in Nigeria provides key lessons on managing public finances for sustainable growth and offers insights applicable to other countries. Locally, a study on informal address practices among Sri Lankan university students sheds light on social interactions that affect educational environments and language. A paper on shifting military engagement toward peacebuilding in Sri Lanka's Northern Province emphasizes the importance of stability for long-term development. Additionally, research on customer satisfaction in fund management companies in Sri Lanka and the socio-economic importance of inland fishermen at Udawalawe Reservoir offers crucial insights into adaptive strategies. Collectively, these studies contribute to a deeper understanding of economic and social progress.

As the Editor-in-Chief of SLJSSH, I extend my gratitude to the Coordinating Editor, Editors, reviewers, Text Editor, and Editorial Assistant for their commitment and expertise. We are also grateful to our authors for their valuable contributions. We look forward to your continued support as we work to further the success of the journal. Thank you for your dedication to SLJSSH, and we wish you all the best in your future contributions.

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The multi-disciplinary bi-annual double-blind peer-reviewed international journal published by the Faculty of Social Sciences and Languages, Sabaragamuwa University of Sri Lanka.

Faculty of Social Sciences and Languages, Sabaragamuwa University of Sri Lanka is pleased to present volume 4 issue 2 of the Sri Lanka Journal of Social Sciences and Humanities (SLJSSH) to provide the national and international scholars with an intellectual platform for the publication of a quality journal. This multi-disciplinary bi-annual international journal in English aims to promote studies in Social Sciences and Humanities and thereby cater to the needs of all researchers and academics looking forward to contributing their knowledge, skills, and abilities to the field of Social Sciences and Humanities. All articles in this journal are subject to a rigorous double-blind peer-review process followed by thorough scrutiny by the Editorial Board to ensure high academic and research standards before final publication.

The Impact of Domestic and External State Debt on State Gross Domestic Product in Nigeria

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Abstract

The impact of state indebtedness, both external and domestic, on the GDP of each state, was investigated in this study utilising panel data gathered from 22 Nigerian states between 2013 and 2017. Past studies conducted on the debt-growth relationship have concentrated on the national level with little attention given to the sub-national level. This study fills that gap with the intention of having a better understanding of the debt-growth relationship at the state level. Using panel regression techniques, results showed that total debt has a non-linear relationship with the state GDP; whereby as total debt increases, the state GDP also increases until it reaches a threshold when a rise in state total debt produces a negative impact on the state GDP. A similar result was obtained while using domestic debt. On the contrary, external State debt was found to have a linear, positive and significant relationship with the state GDP. The implication of this is that external state debt is beneficial to the state GDP. The study recommends that state governments should borrow to finance capital projects or high-yielding investments and not recurrent expenditures. Also, state governments should have a debt threshold which would guide them whenever they incur debts.

Keywords: Gross Domestic Product, Total Debt, Domestic Debt, External Debt, Public Debt

INTRODUCTION

Nigeria has the largest economy in Africa. In 2019, the country's Gross Domestic Product (GDP) amounted to $444.9 billion (N80.3 trillion) or 18% of the continent's output (IMF, 2020). The Nigerian economy had rapid growth in the 1970s following the oil boom of that era, but the growth was not sustained. Despite the country's dominance in the economy of Africa, it has not had stable macroeconomic fundamentals since 1990. The GDP growth has not been stable, similar to the inflation rate. The performances of major monetary aggregates have not been encouraging in the country; they have grown slowly in most years, declining below targets. The fiscal activities of the government were financed majorly by increased debt (Matthew and Mordecai, 2016).

Debt Management Office (DMO, 2019) records show that Nigeria's total public debt profile is $85.39 billion, this is worrisome as over N30.35 billion was used to service debts from 2013 till 2017. In spite of the accumulated debt and debt relief of 2005 and 2006, there has been no significant improvement in basic infrastructure, and the poverty level remained high, hence, the reason for questioning the need for additional external debt.

States borrow when they cannot generate enough domestic savings coupled with low federal allocation to pursue their productive activities and their respective obligations. The funds are borrowed for the purpose of boosting the state's economic growth and development, and to improve the citizens' living standard. State Governments usually borrow through the issue of government bonds, securities and bills through the Central Bank of Nigeria (CBN) and other local financial institutions (DMO 2019).

In 2017, the GDP for the 22 states with accessible data stood at N63.8 trillion or 56% of Nigeria's nominal GDP in that year. The states include Akwa-Ibom, Anambra, and Ebonyi states from the eastern region, Bauchi, Gombe, Jigawa, Kaduna, Kano, Kogi, Niger, and Zamfara states from the northern part of the country, Bayelsa, Cross-River, Delta, and Rivers state from the south, Edo, Ekiti, Ogun, Ondo, Osun, and Oyo from the western zone and the Federal capital territory (Abuja) (NBS, 2019).

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By sectors, 22 out of 36 states accounted for 48%, 77% and 57%, of services, industry and agriculture, respectively (NBS report, 2017). Among the 22 states, the services sector accounted for the larger portion by 67%, industry accounted for 11% and agriculture, 22%. Out of the 22 states, Abuja had the highest GDP at N10.6 trillion or 17% of the total state GDP. In Abuja, agriculture contributed 10% to the GDP, services contributed 81% of the GDP and industry contributed 18%. However, in Akwa-Ibom, agriculture contributed 16%, industry contributed 65% and services contributed 19% of the total state GDP (NBS, 2019).

Researchers have shown fewer concerns about the contributions of different states to an unresolved debt-growth analysis at the sub-national level. This may be due to the unavailability of data on the performance of state(s) economy measured by the GDP. Through this study, the Debt Management Office (DMO) can make a big difference in training the necessary skills and promoting responsible sub-national debt management practices, which will affect the state GDP and significantly contribute to the national GDP instead of focusing only on national debts, even though state governments ultimately have the final say over sub-national debt decisions. This study aims to investigate the relationship between state debt and state economic growth in Nigeria in order to close the knowledge gap on debt-growth analysis at the sub-national level. This study is germane to investigate which states have either positive or negative debt growth.

This research investigates the impact of the funds borrowed (domestic and external) by the 22 states on the GDP in Nigeria from 2013 to 2017. However, this study intends to answer these specific questions at the state level: (i) Does internal public debt affect the state GDP in Nigeria? (ii) Does external public debt impact the state GDP in Nigeria, and (iii) What is the impact of total public debt on the state GDP in Nigeria?

This study seeks to examine the effect of state-level public debt on the GDP of Nigerian states. The specific objectives of the research are to: (i) examine the effect of domestic public debt on the GDP of Nigerian states; (ii) analyse the impact of external public debt on the state GDP in Nigeria, and (iii) examine the impact of total public debt on the state GDP in Nigeria.

This study will cover 22 states out of 36 states in Nigeria. This is due to the unavailability of data for the remaining states not included in the study. The study covers from 2013 to 2017. This study hypothesised that the states' debts (both internal and external) do not significantly impact the performance of the sub-national economy measured by the GDP in Nigeria.

LITERATURE REVIEW

This section presents a review of the literature relevant to this study. The review covers three key issues, namely conceptual review, theoretical review, and methodological review.

Conceptual Issues

Some concepts are central to this study. The concepts are discussed below:

A nation's total market value for all finished goods and services produced inside its borders over a specific time period is its GDP. It represents a monetary assessment of the nation's overall production. (NBS, 2017; SNA, 2008).

Ogba (2014) defines debt as a contractual commitment to return money borrowed under a contract at a later time. Debt, according to Winifred (2014) is the act of borrowing, either domestically or from external sources. A debt is a sum of money owed, as well as the state of being in debt. The Borrower can be an individual, a sovereign state or country, a local government, or a corporation. Typically, Debt is contractual with terms governing the timing and amount of principal and interest repayments (Butt, 2019).

According to Erhieyovwe & Onovwoakpoma (2013), Public debt refers to the funds borrowed by the government, either from domestic sources or from international markets. Furthermore, Olalekan (2012) emphasizes that Nigeria borrows to bridge the gap between investment and savings and to finance the deficit in the budget. The study compares this to Rosenstein-'Big-Push' Rodan's theory of economic growth and development, which holds that some amount of resources must be invested in government-intensive projects in order for the goal to be met. A country's public debt comprises both internal and foreign debt, and it is incurred occasionally when the economy is required to cater for large fiscal deficits (Edo, 2002). As a result, public debt is borrowing by a country's government to fund government expenditure. Olalekan (2012) defined Nigeria's internal debt as federal government debt instruments denominated in local currency, primarily Nigerian Treasury Certificates (NTCs), Nigerian Treasury Bills (TBs), Federal Government Development Stocks (FGDSs), and Treasury Bonds (TBs) (see; Ojuolape, Yusuf, Alabi, and Oladipupo, 2015).

Loganathan, Sukemi, and Sanusi (2010) defined foreign debt as money borrowed from abroad and they pointed out that as it grows, it can stifle a country's growth rate. Because of globalisation and current technological advancements in banking and fund transfer across national borders, the two major concepts may be misunderstood. It is important to note, however, that the main difference is the vulnerability to foreign interest rates.

Theoretical Review

Debt Overhang Theory: A large debt load may lead to debt overhang, which deters investment and growth due to the expectation of debt payback. According to this argument, a nation's debt level should not be allowed to rise above a particular point because doing so would make investment in industrial ventures and other productive activities less attractive to both foreign and domestic investors Krugman (1988). An increasing debt load poses a dangerous barrier to a country's ability to grow economically, despite some economic theories suggesting that reasonable public debts, both external and domestic, are necessary, especially for low-income countries to improve living standards and spur economic growth (Saungweme and Odhiambo, 2019).

Neoclassical Growth Theory: Solow (1956) implies that investments supported by debt may be advantageous if they result in profitable ventures since capital accumulation is a prerequisite for growth. Debt can, however, discourage investment and impede growth if it is employed inefficiently

or results in heavy repayment responsibilities. This theory claims that modest levels of public debt can boost economic growth like the debt Laffer curve. Government debt only gets in the way of economic growth when it gets out of control. The endogenous growth model states that improper management of government debt used to finance expenses or purchase capital assets may have negative effects. Quite a number of existing theoretical and empirical work supports the claim that unsustainable public debt lowers a country's competitiveness and increases its financial markets' susceptibility to external shocks (Mhlaba and Phiri 2019).

One key advantage of the neoclassical theory of income determination is its uniform treatment of interest, wages, and rents, unlike earlier theories that offered different explanations for each. However, profits do not align as neatly within the neoclassical framework. A second benefit is the theory's integration with production theory. Additionally, the neoclassical theory of distributive shares can be expressed in a relatively straightforward mathematical form, which serves as a third advantage (Roth, Settele, and Wohlfart, 2021).

One of the difficulties in assessing neoclassical theory is defining and measuring labour, capital, and land, and more specifically assessing differences in quality. In macroeconomic reasoning, one typically deals with the labour force, regardless of the workers' skills, which results in massive statistical discrepancies. The best approach is to treat each type and quality of labour, as well as capital, as a separate productive factor. When the historical development of production is examined, it is concluded that most of the output growth is due to advancements in the quality of labour and capital rather than increases in their quantity. Capital goods stock is viewed as a series of vintages, each with its own productivity. A significant portion of production growth is due to improved quality of input, resulting in significant flexibility in the distribution of national income, and explanation for profits.

According to the framework of endogenous growth theory, internal variables rather than external ones are primarily responsible for economic growth (Romer, 1993). This theory argues that investments in innovation, human capital, and knowledge are essential for fostering economic growth. It highlights the significance of positive externalities and spillover effects inherent in a knowledge-based economy, which ultimately promotes sustained economic development (Romer, 1993). A fundamental tenet of endogenous growth theory is that the long-term growth rate of an economy is influenced by policy interventions. For example, subsidies aimed at research and development, or education can boost growth rates in various endogenous growth models by improving incentives for innovation.

Public debt has a negative impact on growth in the long run in the endogenous growth models (Barro, 1990). Alternatively, it may be argued that the best way to pay off debts is to reduce government expenditure or apply unfair taxes, both of which hinder economic progress. Bohn (1998), Lo and Rogoff (2015), and Mendoza and Ostry (2008) demonstrated that the government reacts to an increase in public debt by raising primary surplus or lowering deficits. Solow's neoclassical growth model fails to adequately account for the observed patterns of actual economic growth. This limitation stems from the model's assertion that per capita output converges to a steady-state trajectory growing at a constant rate. Consequently, the long-term national growth rate is seen as being determined independently of consumer preferences, various components of the production function, and policy interventions.

Ball and Mankiw (1996) present the debt fairy parable, a back-of-the-envelope calculation of the burden of public debt in the Solow model. Elmendorf and Mankiw (1998) assert that there exists a negative long-term relationship between public debt and economic growth. In traditional overlapping generations growth models, public debt leads to increased interest rates, which in turn diminishes savings and capital accumulation, ultimately hampering economic growth (Blanchard, 1987; Diamond, 1965; Modigliani, 1961).

Several studies attempted to assess the empirical basis of Ricardian equivalence. According to Buiter (1988), the case for debt neutrality is not well established. Feldstein (1976 and 1998) argued that, though paying social security benefits is tantamount to issuing bonds, empirical evidence on the effects of social security on wealth suggests that the debt burden is shifted through lower saving ratios (Seater, 1993). While several studies challenged Ricardian equivalence, Holcombe, Jackson, and Zardkoohi (1981) supported the prediction that debt and deficit have no effect on relevant economic variables

Empirical Review

The empirical literature's findings on the relationship between public debt and GDP are inconclusive (Yusuff and Moh, 2023). Mbaye, Badia and Chae (2018) examined the determinants and consequences of debt accumulation in developing countries, including the impact on economic performance. The study finds that high debt levels can lead to reduced economic growth which follows the theoretical view mentioned in this study (see, Saungweme and Odhiambo 2019). Studies (see, Diamond, 1965; Modigliani, 1961; Saint-Paul, 1992), maintained that an increase in public debt contributes to economic growth. This was also supported by Ezike and Mojekwu (2011), who established that foreign debt had a positive effect on economic growth in Nigeria. The reason for this was that debt capital contributes to capital formation and has a positive impact on economic growth.

Sulaiman and Azeez (2012) investigated the effect of Nigeria's external debt on economic growth. The results of the error correction model depict that external debt has benefited the Nigerian economy. In contrast, many other studies produced results that differed or contradicted those of the previous studies. Chinaemerem and Anayochukwu (2013) concluded that debt financing is inversely linked to economic growth. Ezeabasili, Isu and Mojekwu (2011) also analysed the link between Nigeria's foreign debt and economic growth. The error correction estimates showed that foreign debt has an inverse relationship with Nigeria's economic growth. They stated that Nigeria needs to focus on absorptive capacity, noting that low debt service/GDP capacity ratios could serve as a guide for debt negotiations in the future because of the country's low debt to the GDP.

Furthermore, Charles and Abimbola (2018) investigated how Nigeria's economy was impacted by its external debt. The findings show that there is an inverse link between the GDP and external debt and external debt service. Obisesan, Akosile, and Ogunsanwo (2019) investigated the effect of Nigeria's external debt on economic expansion. The cointegration test and the error correction test were used in Nigeria to investigate the problem between 1980 and 2012. The results of this investigation confirmed the conventional wisdom that there is a negative correlation between growth and external debt.

Matthew and Mordecai (2016) examined how Nigeria's economic progress is impacted by governmental debt. The findings of the Johansen co-integration test show a long-term association between the variables, which include the amount of debt outstanding, the amount being paid back domestically, the amount being paid back externally, and economic development as measured by Nigeria's GDP per capita. The results of the Error Correction Model (ECM) indicate that Nigeria's economic progress is somewhat correlated negatively with the service of foreign debt and the stock of external debt. On the other hand, there is a strong positive correlation between economic progress and domestic debt stocks.

However, more recent research has revealed something other than the two opposing findings. Patillo, Poirson and Ricci (2004) established that low levels of government debt are beneficial to economic growth while high levels are detrimental (Schclarek, 2004). In contrast, Kumar and Woo (2010) discovered a negative relationship between the two variables after controlling for other factors that influence growth. Mitze and Matz (2015) discovered a long-run negative relation between regional government debt intensities and output for German federal states from 1970 to 2010.

Makinde, Ph, Sule, and Abu (2015) analysed the effects of public debt on Nigeria's economic growth from 1986 to 2013. The study concluded that the influence of government debt on economic growth during this period was minimal, with the substantial accumulation of foreign debt contributing only insignificantly to the real GDP.

Ndoricimpa (2017) investigated the effects of debt thresholds on African economic growth using both dynamic and non-dynamic panel methods. Results showed that the estimated debt threshold varies just as the method of estimation and the control variables for economic growth vary. It is impossible to deny the existence of non-linearities in the debt-growth relation. The study showed that debts that are not high are either neutral or beneficial to growth, while debts that are high are consistently unfavourable to growth in all cases studied.

Egbe and Alfred (2015) examined the effect of international debt on Nigeria's economic growth. Through a two-stage data analysis, the findings indicate that the correlation between external debt and economic growth in Nigeria is weak. Consequently, international debt is not a reliable predictor of economic growth in the country, meaning that fluctuations in the GDP cannot be anticipated based on changes in foreign debt levels. To foster growth in Nigeria

through debt utilisation, it is essential for policymakers to practice fiscal discipline with public funds.

Eberhardt and Presbitero (2015) analysed the relationship between government debt and growth heterogeneity and non-linearity among African countries. It found evidence of a negative association between government debt and long-term growth; however, the results did not indicate a uniform debt threshold applicable to all the nations.

At a glance, one can see that the findings of the various studies are split into 3. Some empirical studies revealed that public debt has a negative effect on economic growth, while some showed a positive effect and others showed insignificant results, depending mainly on several factors such as the model employed, the period of study, countries specified, term and the aspect of public debt (domestic or external) considered, etc. It can then be concluded that the effect of public debt on the GDP is unclear.

All the above-reviewed papers contributed to the literature. However, there are some limitations. Firstly, since no general agreement exists on the direction of the relation on the debt-growth nexus, the reviewed papers failed to consider regional or subnational debt-growth relationships despite their massive contribution to the growth of the country's economy.

Secondly, quite a number of the studies used either domestic debt or foreign debt impact on growth, especially on the external implication, while little or scarce literature was found on total debt. Therefore, this study contributes to the literature, by concentrating on the neglected sub-national levels and total debt (both external and internal) and analysing the implication of state debt on state GDP in Nigeria.

MATIRIALS AND METHODS

This section contains a brief introduction of the study area, the conceptual and theoretical framework adopted by this study, model specification, data requirements, estimation techniques, and evaluation methods.

Theoretical Framework

Theoretically, this study adopts Keynes's income determination model. According to Keynes, national income (Y) or the GDP of an open economy comprises five basic components which are private consumption spending (C), aggregate demand for capital goods by the private sector (I), government expenditure (G), export of goods and services (X) and import of goods and services (M) and it is stated below:

$$Y_t = C_t + I_t + G_t + X_t - M_t \quad (1)$$

In order to make the equation in (1) more explicit, each of the expressions on the right-hand side is stated as follows:

$$C_t = a + bYd_t \quad (2)$$

$$I_t = I_0 + ir_t \quad (3)$$

$$G_t = G_0 \quad (4)$$

$$X_t = X_0 \quad (5)$$

$$M_t = M_0 + mY_t \quad (6)$$

$$T_t = T_0 + tY_t \quad (7)$$

$$Y_t^d = Y_t - T_t \quad (8)$$

Where a is autonomous consumption, b is the marginal propensity to consume, Y_d is disposable income, I_0 is an autonomous investment, r is the rate of interest, i is the marginal propensity to invest, G_0 is government spending, X_0 is export, T_0 is autonomous tax, t is the tax rate, and m is the marginal propensity to import.

Incorporating (2) to (8) into (1) yields the aggregate demand given as

$$Y_t = a + bY_t^d + I_0 + ir_t + G_0 + X_0 - M_0 - mY_t \quad (9)$$

Incorporating (7) and (8) into (9) produces

$$Y_t = a + bY_t - bT_0 - btY_t + I_0 + ir_t + G_0 + X_0 - M_0 - mY_t \ (10)$$

Solving for Y gives

$$Y_t = 1/(1 - b + bt + m)(a - bT_0 + I_0 + ir_t + G_0 + X_0 - M_0) \quad (11)$$

By implication,

$$\boldsymbol{Y = y(r)} \quad (12)$$

This is because the other variables in equation 11 are parameters.

However, Equation (13) is the equilibrium level of national income within the simple Keynesian macroeconomic framework which links GDP with only interest rate. The relation fails to link national income or GDP with public debt. In order to incorporate public debt into the relation, the government budget constraint is introduced following the work of Modigliani and Sterling (1986). The government budget constraint is given as;

$$T_t = G_t + rB_{t-1} - D_t \quad (13)$$

Where D_t is the government fiscal deficit, r is the interest rate, B_{t-1} is the public debt in the previous period, and T_t is the government tax revenue receipt in the current period.

Replace equation 7 with equation 13, then the solution will be as follows:

$$Y_t = a + bY_t - bG_0 - rbB_{t-1} + bD_t + I_0 + ir_t + G_0 + X_0 - M_0 - mY_t \ (14)$$

$$Y_t = 1/(1 - b + m)(a - bG_0 + I_0 + G_0 + X_0 - M_0 + ir_t - rbB_{t-1} + bD_t) \quad (15)$$

Thus, the national income is expressed in functional form as

$$Y_t = y(r_t, B_{t-1}, D_t) \quad (16)$$

Equation (15) is the modified equilibrium level of national income within a simple Keynesian framework which relates the national income or the Gross Domestic Product (GDP) with public debt (B), interest rate (r) and the budget deficit (D).

Model Specification

In line with the theoretical framework presented in the immediately preceding subsection, the GDP level is a function of government debt, interest rate and budget deficit which is expressed as;

$$GDP = f(INT, PDEBT, BDEF) \quad (17)$$

Where:
- GDP is measured by nominal gross domestic product
- INT is interest rate
- PDEBT is public debt
- BDEF is budget deficit

Since this study used sub-national data where each state faces the same level of interest rate, it would be sensible to use another proxy of interest rate. For this study, the number of bank branches (CBB) in each state is used in place of interest rate since it determines the accessibility to financing in each state. In addition, there is a limitation to state-level data on the budget deficit. This study proxies it with the Federal Accounts Allocation Committee (FAAC) allocation to each state. Therefore, it is assumed in this study that GDP at the state level is a function of government debt, commercial bank branches and FAAC allocation.

$$GDP = f(INT, PDEBT, BDEF) \quad (18)$$

It should be noted that PDEBT consists of domestic and external debt. Therefore, public debt is measured in three ways: internal debt, international debt, and total debt.

Thus, the model is re-specified in econometric form as:

$$GDPi,t = \propto + \beta_1 PDEBTi,t + \beta_2 CBBi,t + \beta_3 FAACi,t + \theta i + \varepsilon i,t \quad (19)$$

Using components of public debt produces two sets of equations, each for total debt, and external and domestic debt. That is:

$$GDPi,t = \propto + \beta_1 TDEBTi,t + \beta_2 CBBi,t + \beta_3 FAACi,t + \theta i + \varepsilon i,t \quad (20)$$

$$GDPi,t = \propto + \beta_1 EDEBTi,t + \beta_2 DDEBTi,t + \beta_3 CBBi,t + \beta_4 FAACi,t + \theta i + \varepsilon i,t \quad (21)$$

In the specifications above, a linear or one-way relationship between GDP and public debt is assumed.

Furthermore, the study estimates a non-linear model where a quadratic relationship is assumed between GDP and public debt. With this, it is possible to show if government debt has a two-way impact on GDP.

Thus, the two equations above are re-specified as

$$GDPi,t = \propto + \beta_1 TDEBTi,t + \beta_2 TDEBT_{it}^2 + \beta_2 CBBi,t + \beta_3 FAACi,t + \theta i + \varepsilon i,t \ (22)$$

$$GDPi,t = \propto + \beta_1 EDEBTi,t + \beta_2 EDEBT_{it}^2 + \beta_3 DDEBTi,t + \beta_4 DDEBT_{it}^2 + \beta_5 CBBi,t + \beta_6 FAACi,t + \theta i + \varepsilon i,t \quad (23)$$

Where:
- θ = state fixed effects
- ε = the error term
- α = the constant term
- β = the coefficients of independent variables
- i = state
- t = year

The Data

This study used data from the Central Bank of Nigeria's (CBN, 2019) statistical bulletin and annual reports for state debt profile to assess the impact of state public debt on the GDP of 22 states between 2013 and 2017, state gross domestic product (SGDP) data and the data on commercial bank branches per state and FAAC allocation for each state. Due to data constraints, this study had to stop in 2017.

Estimation Techniques

In this study, panel data techniques are adopted to determine the effect of state debt on state economic performance and other economic output indicators in the 22 states under consideration in Nigeria. In the unlikely case that the cross-sections contain some distinguishing characteristics, the panel data estimate successfully draws attention to individual heterogeneity. As such, compared to time series, the propensity to bias is reduced. This is because time series do not take heterogeneity into account because some distinguishing factors may change over time. Other merits of using panel data techniques include less collinearity, estimation being more efficient and higher precision in capturing the impact of individual samples as a result of available data that is large.

Evaluation Methods

Three basic evaluation methods, namely economic or apriori criteria, statistical criteria and econometric criteria are used in this study. Apriori, the study expects a negative impact of total debt, internal debt and external debt on state GDP, while a positive impact is expected of budget deficit proceed by federal allocation to states and interest rates proxied by commercial bank branches on GDP in terms of statistical tests. However, the study examines the individual significance of the variables using p-value, which could be significant at 1 per cent if less than 0.01, 5 per cent if less than 0.05 and 10 per cent if less than 0.1. At the same time, the overall fitness of the model is ascertained using R-squared. The econometric criteria which assess compliance with the model assumption are also examined. For the test of multicollinearity, a simple correlation matrix is used, while the heteroscedasticity test is ascertained using the Breusch Pagan test.

RESULTS AND DISCUSSION

The results consist of the descriptive analysis under which the results of the summary statistics and correlation coefficients are presented, and the panel regression results under which the results of the linear and non-linear impact of the debt on GDP under alternative panel regression techniques are presented. The study implores both linear and non-linear to see the impact of the dependent variable on the independent variables' indifferent functional form and to have a robust result and make more inferences.

Table 1 captures the summary statistics. The results indicate that the average GDP of the states for the period considered is 2,367,470 million naira with a standard deviation, minimum and maximum of 1,816,664, 701047 and 10,627,398 million naira, respectively. The estimated mean domestic debt is 70,628.46 million naira with a standard deviation of 58079.95 million naira. It equally has a minimum and maximum of 1,569.942 and 321,000 million naira, respectively. The external debt has a mean and standard deviation of 14,785.38 and 12,495.55, respectively, with a minimum and maximum of -10,451.80 and 70,973.01 million naira. The average total debt is estimated to be 85,413.83, with a standard deviation of 59,827.94. The minimum total debt is 7,233.095, while the maximum total debt is estimated to be 328103.5 million naira. However, the Jarque-Bera normality test result showed that data of all variables in the model are not normally distributed with the probability values of 0.0000, which is less than 0.05 significant level.

The results obtained from the correlation analysis are presented in Table 2. The estimated correlation coefficient of 0.455 shows that GDP is moderately positively correlated with internal debt, while the estimated coefficient of -0.048 indicates that GDP is moderately negatively related to GDP. The estimated coefficient of 0.432 indicates that total debt is moderately positively related to GDP. In addition, the estimated coefficient of 0.734 shows that GDP is highly positively correlated with CBB, and 0.346 shows that GDP is moderately positively correlated with FAAC.

Table 1: Descriptive statistics

	SGDP	FAAC	CBB	EDEBT	DDEBT	TDEBT
Mean	2367470.	19752.71	134.1909	14785.38	70628.46	85413.83
Median	1906236.	7315.768	102.0000	10581.28	53307.06	74084.20
Maximum	10627398	143614.9	437.0000	70973.01	320605.7	328103.5
Minimum	701047.1	2402.551	30.00000	-10451.80	1569.942	7233.095
Std. Dev.	1816664.	26451.13	96.95544	12495.55	58079.95	59827.94
Skewness	2.806803	2.380199	1.220645	2.191696	1.384526	1.113674
Kurtosis	11.88184	9.408369	3.966595	8.876357	5.599498	4.691378
Jarque-Bera	505.9983	292.0894	31.59842	246.3344	66.11480	35.85010
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	2.60E+08	2172798.	14761.00	1626391.	7769130.	9395522.
Sum Sq. Dev.	3.60E+14	7.63E+10	1024639.	1.70E+10	3.68E+11	3.90E+11
Observations	110	110	110	110	110	110

Source: Authors' computation, 2024

Table 2: Correlation results

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) SGDP	1.000					
(2) DDEBT	0.455	1.000				
(3) EDEBT	-0.048	0.034	1.000			
(4) TDEBT	0.432	0.978	0.242	1.000		
(5) CBB	0.734	0.297	0.088	0.307	1.000	
(6) FAAC	0.346	0.452	0.186	0.478	0.156	1.000

Source: Authors' computation, 2024

Regression Results for the Impact of Total Public Debt on GDP

The Generalised Least Square estimated panel regression results on the impact of debt on GDP are presented in Table 3. So far, the Jaque Bera normality test ascertained the non-normal distribution of all variables data included in the model. The study employed GLS regression analysis. The results were obtained with the assumption of linear and non-linear relationships. The linear model results indicate that total debt has a direct and significant impact on GDP at a 5% level of significance given the estimated coefficient and p-value of 4.447 and 0.0378, respectively. However, the results of the non-linear regression depict that total debt has a significant positive impact on GDP, while the square of the total debt has a significant negative impact on GDP. The results imply that the state's total debt has an inverted U-shaped relationship with the GDP. The GDP increases with debt up to a certain amount where it reaches a turning point and then falls with increases in debt. Therefore, from the results, total debt is beneficial for the GDP if it is moderate and does not go beyond a certain threshold among the states in Nigeria. The findings in this study partially contradict the theoretical and empirical submissions, which state that debt is detrimental to growth and development (Charles & Abimbola, 2018b; Chinaemerem & Anayochukwu, 2013; Ezeabasili et al., 2011; Obademi & Okubanjo, 2013). Therefore, the results align with previous empirical works that reported an inverted U-shaped relationship between debt and GDP, such as in Israel Shahor (2018) and a sample of 152 countries (Butkus & Seputiene, 2018).

Table 3: Generalised linear square regression results for total debt

Variables	Linear	Non-Linear
TDEBT	4.447**	12.35**
	(0.0378)	(0.0166)
TDEBTSQ		-3.24e-05*
		(0.0928)
FAAC	11.85**	11.21**
	(0.0111)	(0.0153)
CBB	12,402***	12,257***
	(0)	(0)
Constant	89,332	-201,694
	(0.681)	(0.464)
Observations	110	110
Number of sid	22	22

Source: Authors' Computation, 2024

Note: pval in parentheses - *** p<0.01, ** p<0.05, * p<0.1

The Impact of Domestic and External Debt on GDP

The estimated GLS panel regression results on the impact of domestic debt on GDP are presented in Table 4.4. The results were also obtained with the assumption of linear and non-linear relationships separately. The findings, based on the assumption of a linear relationship between GDP and domestic debt, indicate that domestic debt has a positive and statistically significant effect across all conventional significance levels, as evidenced by the estimated coefficient of 5.936 and a p-value of 0.005. This implies that a rise in domestic debt leads to a rise in GDP.

The result of the non-linear regression indicates that domestic debt has a significant positive impact on GDP while domestic debt square has a significant negative impact on GDP. The results imply that state domestic debt has an inverted U-shaped relationship with the GDP. The GDP increases with debt up to a turning point where further increases in debt lead to a reduction in GDP. Therefore, domestic debt is beneficial for GDP. However, the government at the state level must exercise caution since an increase in domestic debt beyond the inflexion point will negatively affect the GDP.

Table 4: Estimated generalised least square panel regression result for domestic debt

Variables	Linear	Non-Linear
DDEBT	5.936***	15.69***
	(0.00540)	(0.00121)
DDEBTSQ		-4.27e-05**
		(0.0258)
FAAC	10.86**	9.681**
	(0.0165)	(0.0300)
CBB	12,229***	12,108***
	(0)	(0)
Constant	92,610	-200,918
	(0.650)	(0.401)
Observations	110	110
Number of sid	22	22

Source: Authors' Computation, 2024

Note: pval in parentheses - *** p<0.01, ** p<0.05, * p<0.1

Furthermore, the GLS panel regression results for the impact of external debt on GDP with the assumption of linearity and non-linearity are presented in Table 4.5. The linear model results with a coefficient of -23.12 and p-value of 0.008 indicate that external debt has a negative and significant impact on GDP. This implies that state GDP decreases with increases in external debt. Foreign debt could have an impact on economic growth either through a debt overhang or through crowding out. The findings from the non-linear

regression analysis show that external debt exerts a significant negative effect on GDP, whereas the squared value of external debt has a positive but statistically insignificant effect on GDP. This suggests that the relationship between states' foreign debts and GDP follows an inverted U-shaped pattern.

Table 5: GLS panel regression results for the impact of external debt on GDP with the assumption of linearity and non-linearity

Variables	Linear	Non-Linear
EDEBT	-23.12***	-52.77**
	(0.00819)	(0.0277)
EDEBTSQ		0.000519
		(0.185)
FAAC	18.21***	18.64***
	(1.23e-05)	(6.88e-06)
CBB	13,236***	13,218***
	(0)	(0)
Constant	573,356***	812,102***
	(0.00877)	(0.00397)
Observations	110	110
Number of sid	22	22

Source: Authors' Computation, 2024

Note: pval in parentheses - *** $p<0.01$, ** $p<0.05$, * $p<0.1$

However, Tables 3 and 4 show the linear and non-linear models for FAAC and BCC. The linear model result indicates FAAC and CBB have a positive and significant impact on GDP with coefficient and probability values of 11.85 and 0.011, respectively. Similarly, the results of the non-linear regression also indicate that FACC and BCC have a positive and significant impact on state GDP. The results imply that GDP increases as FAAC and BCC increase.

CONCLUSION

There is no doubt that the provocative debate on how public debts affect GDP, particularly for the West African nations and the nature of the relationship, has remained quite inconclusive. Several studies and series of analyses conducted on relationships are more concentrated on the national level. However, little attention has been given to the sub-national level. Therefore, this study focused on the sub-national level analysis and established the effect of domestic, external, and total debts on the GDP in 22 states in Nigeria.

The study adopted descriptive statistics, correlations analysis and panel regression analysis. Panel regression and correlation methods of analysis were adopted in this study. The study examined the likelihood of both linear and non-linear relationships in the debt-GDP linkage.

The results of the linear and non-linear model indicate that:

- Total debt has a significant positive impact on GDP, while the square has a significant negative impact on GDP.
- Domestic debt has a significant positive impact on GDP, while the square has a significant negative impact on GDP.

- External debt has a significant negative impact on state GDP, while the square has a significant positive impact on GDP.
- FAAC and BCC have a significant positive impact on GDP in both linear and non-linear regression.

The results imply that each state's total debt, domestic debt, and external debt have inverted U-shaped relationships with the GDP. GDP increases with debt until it reaches a turning point, and then the GDP falls with increases in debt. Therefore, from the results, total debt, internal debt, and international debt are beneficial for GDP if it is moderate and does not go beyond a certain threshold among the states in Nigeria.

Recommendations and Policy Implications

This study recommends the following to the state government:

- The state government should borrow to finance the capital project or a high-yielding investment and not recurrent expenditure. This is because the government can service the debt through returns on investment, and money spent on recurrent has gone forever.

- The state government should closely monitor the public debt incurred by the state so as not to go beyond what the state can afford and avoid negative effects when it becomes excessive.

- Debt Management Office (DMO) can make a big difference in training the necessary skills and promoting responsible sub-national debt management practices, which will affect state GDP and significantly contribute to national GDP instead of focusing only on national debts, even though state governments ultimately have the final say over sub-national debt decisions.

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Informal Address Practices among University Students in Sri Lanka: A Case Study

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Abstract

The use of address terms within communication settings across divergent cultures is a core determinant of understanding the essential correspondence between language and society. Informed by Brown and Gilman's prominent seminal study on the pronouns of power and solidarity (1960), various research studies have been conducted to explore the sociolinguistic dimensions as observed in the address practices employed by specific communities belonging to different cultures. However, there is a notable dearth of sociolinguistic research on the significance of the terms of address used within the Sri Lankan context, and while addressing this research gap, the present study attempts to investigate the informal address strategies used among Sri Lankan university undergraduates, specifically with regards to their interactions governed by solidarity behaviours. Primary data required for the study were collected from a survey questionnaire directed to a sample of 35 undergraduates (response rate: 74%) studying in a specific faculty of a state university in Sri Lanka and the research methodology involves the grounded theory of qualitative approach and thematic analysis. The reported key findings of the study encompass the following address categories: prosoponyms, appellatives, 'campus cards', kinship terms, honorifics, and compound phrases. These informal address terms governed by solidarity are further characterized by the individuality, variety and creativity of university cultures, and exhibit a wide range of unique uses that are highly receptive to multicultural, intercultural, and sub-cultural variations. As such, they reflect the sociocultural specificities and attitudinal viewpoints of the interlocutors, showcasing the adaptability and fluidity of address strategies in communication within Sri Lankan university contexts.

Keywords: Sociocultural Dynamics, Solidarity Governed Interactions, Sri Lankan Context, Terms of Address, University Culture

INTRODUCTION

It is a widely recognised fact that language and society possess an essentially fundamental and reciprocal connection, for language shapes society and social interactions forge linguistic phenomena in a multitude of distinctive ways. The use of address strategies, in this regard, can be considered as a vital and systematic feature in universal language behaviour, where the relationships among the speakers in different sociocultural settings are defined and negotiated in significant circumstances. As Philipsen and Huspek (1985) observe, "Personal address is a sociolinguistic subject par excellence" (p. 94), and within formal or informal interactions, the choices made by people in addressing each other are greatly indicative of their identities, attitudes, feelings and the nature of the relationship they share (Spolsky, 2003). Besides, when taking a specific community and culture such as that of a South Asian university into consideration, the ample use of informal terms of address, either consciously or unconsciously, provides greater insights into the pragmatic aspects of the situational contexts and sociocultural factors that operate within these contexts including familiarity, intimacy, gender, ethnicity, religion, politics as well as regional variations. It is noteworthy to mention that in the

Sri Lankan university culture, the employment of informal address terms is amply expressive of the goals of communication that bridge the speaker and the listener in terms of their unique identity constructions, culturally rooted ideological underpinnings as well as like-minded behaviours that define them as a specific community sharing the same interests who work together to achieve a common goal. In this regard, the students' usage of a complicated system of address strategies extensively involves rich and innovative connotations drawn from varied linguistic and cultural resources, where their wisdom, active imagination and enthusiasm to be initiated into a new environment invariably contribute to the construction of an ideal university culture for them.

A university, which can be viewed as a site of a particular form of culture, is a manifestation of the common values, spirits and behaviour norms of people who are pursuing academic goals through the development of study and research. The Sri Lankan university system, in particular, has its own system of communicating with social culture and a unique form of evolution characterised by innovativeness and heterogeneity of speakers. As students living in different

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regions of the country belonging to a diversity of religions, ethnicities, and social communities are enrolled yearly in universities, they reflect a remarkably heterogeneous culture in terms of the ideologies, values, behaviour, mentality, and aesthetic consciousness shared in a common and distinctive system. On the other hand, Sri Lankan universities also demonstrate strong and remarkable sub-cultures, where the undergraduates follow specific customary practices and social processes unique to university communities during their academic period of study. This results in an aspect of 'interculturality' defined on the basis of the relations that exist between culturally diverse groups in the same multicultural university setting triggered by the multilingual environment within larger Sri Lankan culture, where the terms of address drawn from two or more languages necessarily demonstrate intercultural communication among undergraduates. Under these circumstances, distinct identities and traditions shaped by cultural and sub-cultural facets constructed within university contexts are all-pervasive in every single aspect of the interplay between language and society, as perceived in the employment of various terms of address in communication among the speakers. Considering the solidarity governed interactions within communities of Sri Lankan university students, the employment of innovative and exclusive forms of address especially encompasses elements drawn from a broad diversity of customs and traditions emerging from multiple cultural spheres. Hence, undoubtedly, there is scope for extensive sociolinguistic research to examine the nuanced use of informal address strategies and their role in reflecting and shaping social dynamics and communication within Sri Lankan university culture.

In light of this context, this research aims at exploring the informal address practices used among students in a Sri Lankan university, particularly with a focus on the various patterns of address as observed within non-academic interactional settings characterised by solidarity-driven behaviour. By analysing data from a community of undergraduates at a state university in Sri Lanka, this study specifically seeks to identify the sociolinguistic factors that determine and influence their choice of terms of address when addressing and describing each other. It further attempts to use these findings to understand the specific contexts in which Sri Lankan undergraduates tend to change their usual address forms when communicating with each other, and the ways in which their use of different address terms suggest the degree of solidarity governed behaviours. Lastly, the study aims to address the gap in existing research pertaining to the understanding of the terms of address used in Sri Lankan universities by providing deeper insights into how informal address practices function as markers of social dynamics within various contexts of communication among the members of this specific academic community.

LITERATURE REVIEW

In general, the theories of terms of address focus on the study of a speaker's linguistic reference to someone else in initiating contact along with the elements of deixis and signifies a fundamentally important variable in sociolinguistic phenomena. The extensive empirical literature that has developed based on the terms of address described in Brown and Gilman's pioneering study (1960) sheds light on the differentiation of pronominal address in terms of power and solidarity semantics and introduces the symbols T and V to represent familiar and polite pronouns used in conversations. The solidarity semantic in social interactions is characterised by factors such as frequency of contact, degree of power equivalence and similar behavioural dispositions or like-mindedness of the interlocutors (Brown & Gilman, 1960; Ollier et al., 2022). Thus, solidarity is mainly demonstrated within informal interactions among individuals belonging to the same linguistic and cultural community or across different languages and cultures, who share similar interests and pursue a set of common purposes. The choice of informal address terms can also vary according to many social factors related to age, respectability and the dimension of social relationships between the speakers. Within the Sri Lankan context, the choice of a particular term of address is more dependent on the attitude of the speaker towards the addressee, which denotes psychologically governed preferences rather than socially pre-conditioned facts (Braun, 1988; Karunatillake & Suseendirarajah, 1975).

Moreover, several other subsequent researchers have shown the existence of diversified modes of address that reflect distinctive social identities and cultural beliefs of a particular community. According to Fitch (1998), generally, address forms can be categorised as second-person pronouns, proper names, kinship terms, titles, and nicknames and adjectival terms, where people are usually inclined to shift among various ways of addressing each other depending on the specific situations of communication. The elements and aspects that comprise personal address forms along with their use and interpretation are considered universal and systematic (Philipsen & Huspek, 1985), mainly due to the reason that the choices made by the interlocutors on how they will address, name, and designate each other within each and every conversational background essentially differ across contexts. In this regard, concerning the informal interactional settings associated with solidarity, like-mindedness, intimacy and familiarity, which are the focus of the current study, address terms entail a broader scope in reflecting the manners in which interpersonal relationships are societally and strategically established in a variety of cultural domains. As such, it should be indicated that the patterns and meanings of the uses of different address forms are culture-specific and context-based, for even the means of addressing one person can be subjected to multiple changes depending on the nature of a particular interactional setting and its attendant factors.

Considering the academic settings such as educational institutions and universities, Shen and Tian's (2012) study on academic and campus culture of universities, McIntire's (1972) research on the terms of address used in an American academic setting and Afful's (2006) study on the emerging trends of address forms used among university students in Ghana further demonstrate that the speakers' employment of a vitality of address terms by applying individualistic and non-literal meanings upon them generally creates a space for conferring in cultural systems. In addition, within Western European domains and British academic settings, address strategies diverge from traditional forms and display an unmarked pattern of asymmetrical distribution between the parties involved in intercultural communication, thereby showing the extent to which an

enormous potential of cultural values, behavioural dispositions and sociopolitical change can influence the usage of formal and informal address practices (Clyne et el., 2003; Formentelli, 2009). Hence, the speakers use address terms as a tool of negotiating cultural systems (Fitch, 1998) that demonstrate respect, establish rapport, and navigate the complexities of multicultural interactions, contributing to harmonious and mutually beneficial relationships within diverse cultural settings.

In essence, all the studies, as mentioned earlier, emphasise that the use of terms of address consciously or unconsciously provides insights into sociolinguistic information about interactants and pragmatic aspects of the situations (Taavitsainen & Jucker, 2002) constructed within various sociocultural backgrounds shaped by multilingual and intercultural facets. However, academic environments like universities, particularly related to South Asian cultures, have drawn less attention for the study of terms of address. As spaces of diversity, uniqueness and productivity, such university cultures are closely associated with utilising rich and heterogeneous systems of address, predominantly observable in informal communication. In multilingual and multicultural entities such as Sri Lankan university settings, the utilization of rich and complex systems of address underscores the importance of embracing inclusivity and diversity within the sites of language practices (Clayman, 2013), fostering an environment where individuals from various backgrounds thrive together and contribute to the vibrant tapestry of university life. Within these circumstances, this research intends to discover and understand the choices of address practices employed by Sri Lankan university students within solidarity governed informal interactions; an area of focus that addresses a gap in the previous empirical findings related to the theory of address terms studied in sociolinguistics.

MATERIALS AND METHODS

This study was conducted at the University of Colombo, a public university in Sri Lanka that conducts its academic programmes in trilingual medium spanning nine (9) faculties. The Faculty of Arts, which is the largest in the University of Colombo in terms of student enrolment, with nine academic departments and several teaching units offering courses in the Humanities and Social Sciences, was selected as the research setting from where the sample population was drawn. The research was conducted as a case study on the informal address behaviours used by the undergraduates of the Faculty of Arts, University of Colombo, and the sample size of 35 was selected based on the requirement for participants with, at the very least, a basic understanding of terms of address and the ability to respond to the questionnaire accordingly in English, yielding a response rate of 74%. All the research subjects belonged to the age group of between 20-27 years and thus demonstrate the linguistic repertoire used by students representing each of the First, Second, Third and Fourth academic years in the Faculty of Arts.

To discover the complex and engaging forms of informal address practices used among university students in maintaining and enhancing interactions outside the academic and pedagogical sphere, a survey based on the ethnographic approach was carried out as a part of this research to gather first-hand information from the selected population. Given the health and travel restrictions prevailing in the country at the time, the survey was conducted in virtual mode and utilised a self-administered questionnaire distributed among the sample population as the research instrument. To ensure that research ethics were duly followed in the collection of data, the research subjects were provided with an informed consent form including a brief description of the research objectives along with the survey questionnaire to indicate their confirmation to proceed. The questionnaire was further accompanied by the ethical considerations pertaining to ensuring the confidentiality of the responses and the anonymous and voluntary participation of the respondents, before obtaining their consent. The questionnaire expected the participants to answer a set of quantitative and qualitative questions regarding their preferences on using certain address terms in particular situations, the factors they would take into consideration when deciding how informally they would communicate with each other, their views about using specific address terms such as endearment terms and 'campus cards', the occasions where they would usually tend to change their preferred terms of addressing their batchmates within informal contexts, and their overall opinions about multicultural, intercultural and sub-cultural communication at university. These questions involved multiple choice, checkbox type, and short-text answers which required detailed explanations to understand their views and opinions regarding the use of a particular term or terms of address.

This research is grounded in the philosophical approaches underpinning solidarity semantic and terms of address, along with the dynamics of intercultural, multicultural, and sub-cultural communication, recognising the complexity of sociolinguistic practices and the need for a flexible approach to fully capture the nuances of informal address practices among Sri Lankan university students. Drawing on theoretical frameworks involving pragmatism, social identity, and pronouns of power and solidarity, it integrates an exploratory and explanatory examination of the intricate correlation among language, society, and culture within the selected community. Accordingly, from a sociolinguistic perspective, the study specifically focuses on theories for terms of address and politeness behaviour (in Linguistics) posited by Brown and Gilman (1960) along with Karunatillake and Suseendirarajah (1975) in the Sri Lankan context. Besides, the selection of an ethnographic approach as the research method and the survey questionnaire as the tool of data collection was based on the need to gather richer and in-depth information associated with the informal address practices used among university students. Additionally, opting for a survey questionnaire could enable the study to gather responses from a broader audience of university students, thereby capturing a vivid range of perspectives and experiences related to the informal address practices they use. It was also expected to get analytical insights regarding the address usage of the target population by yielding explanatory and straightforward information that would allow for precise comparisons between the respondents' answers. Moreover, the open-ended nature of several questions envisaged an informative and flexible discussion pertaining to the scope of the topic, where the respondents' own points of view, thoughts, and knowledge regarding verbal behaviour in the use of informal address terms could be directly elicited.

With regards to the methods of data analysis, the grounded theory of qualitative analysis was applied in the procedure of systematically coding and cleaning the collected data, followed by synthesising qualitative information through fragmentation of data, defining key processes, and drawing comparisons between data[1]. The thematic analysis approach was further employed to identify recurring patterns and themes, ensuring a comprehensive synthesis of qualitative information that highlights the major sociolinguistic factors influencing the usage of informal address practices in the target population. The codes, themes, and categories for qualitative analysis were developed through the theoretical construct of solidarity, which underpins the selection and use of address terms. The responses from participants, particularly their choices and opinions regarding which address forms they would use in specific situations, were grouped and categorised according to the specific sociolinguistic variables such as friendship, intimacy, seniority, familiarity, gender, and respectability. To offer interpretive and analytical comprehension of the participants' preferences for specific address strategies, some data sets were presented as frequencies in quantitative form as well, thus adopting a mixed-methods approach combining both qualitative and quantitative forms of data analysis. This approach guided the identification of pronouns related to solidarity and key themes associated with informal address strategies, ensuring a comprehensive understanding of the factors driving the choice of address terms in various social contexts. The findings of this research were validated through expert reviews obtained from a senior researcher in the field of Sociolinguistics.

RESULTS AND DISCUSSION

Once the quantitative and qualitative data obtained from the survey were coded and tabulated, the survey as a whole identified six key categories of terms of address employed by the respondents in various interactional encounters relevant to non-academic orientation (i.e., informal), which included prosoponyms, appellatives, 'campus cards', kinship terms, honorifics and compound phrases. Prosoponyms are personal names, and can be categorised as first names, initials and nicknames; the appellatives or common nouns can further be classified as solidarity terms, endearment terms and descriptive phrases. The 'campus cards' are unique imaginative terms constructed within the university sub-cultural context, in place of the given name of a student, and by which a student is supposed to be addressed throughout his/ her university life. Kinship terms are address forms that denote specific relatives or family members and honorifics are words or titles used to convey deference or respect. Most of these address practices are predominantly influenced by Sri Lankan sociocultural contextual factors and reflect the linguistic repertoire of the two major official languages in the country, Sinhala and Tamil.

Table 1 below indicates the major categories of terms of address identified, with the statistics pertaining to the participants' most preferred way/s of addressing each other during informal interactions.

Table 1: The preference of addressing each other during informal interactions

Prosoponyms	Appellatives	'Campus cards'	Kinship terms	Honorifics	Compound phrases
76.9 %	73 %	69 %	46 %	26.9 %	56.7 %

Source: Developed by author, survey statistics, 2022

Prosoponyms

The prosoponyms (derived from Ancient Greek; Keats-Rohan, 2007) are generally regarded as the full names or permanent names acquired by an individual at birth, or the set of names by which an individual is known legally. Prosoponyms are the most widely used category of address terms among university students according to the research findings, and are operationalized as first names, initials and nicknames.

i.   First Names (FNs)

FN is the name that stands first in one's full name, and is given at birth and precedes the surname. The names such as Dilini, Kasun, Abilash, and Fathima can be mentioned as some examples of FNs in the Sri Lankan context. FNs were the most preferred term of address within informal interactions among the undergraduates at the University of Colombo, Faculty of Arts (hereafter UOC FOA) and they involve a rich diversity of terms that signify multilingualism, multiculturalism as well as interculturality (i.e., FNs exhibit heterogeneity in terms of their origins from a variety of ethnicities in the country such as Sinhalese, Tamil, Muslim, Malay etc.). Particularly when considering Sinhalese and Tamil backdrops in the country, people generally use first names as the most prominent means of addressing each other owing to the reason that they are considered real or permanent names acquired at birth and that they inherently give someone a unique identity. Even though first names might be perceived as quite formal when compared with other informal address terms used in solidarity governed interactions, the speakers' linguistic and cultural background along with his/her attitudinal acquisition of social norms characterise them as most commonly employed address practice within informal communication in universities.

ii.   Initials

Initials as another category of informally addressing each other within university culture, typically refer to the abbreviated terms of address formed by combining the first letters of an individual's personal name (AK for Aruni Kankanamge, for instance). Addressing by initials signifies a high degree of solidarity among the interlocutors when they are engaging in informal interactions, as the initials are not very commonly used in formal academic conversations inside the university. Social factors such as friendship and intimacy as well as the scale of familiarity (Ollier et al., 2022) and closeness between the students can be regarded as the key takeaways of such usage.

[1]For easier identification of information submitted by each respondent, the participants' responses were coded according to their gender. Female participants were coded as F1, F2, F3 etc. and male participants as M1, M2, M3 etc.

iii. Nicknames

Nicknames, in the context of a sub-category of prosoponyms, can either be the clipped forms of an individual's given name or of his/her middle name or surname. Some examples for nicknames in this regard would be Tharū for the first name Tharushi and Rāmā for the surname Ramanayake. An interesting usage of nicknames that essentially possesses special connotations within university culture such as nicknames abbreviated from someone's first, middle or last name, has further been identified among the respondents. Individuals may use these alternative monikers to refer to one another, often based on personal characteristics, interests, or memorable experiences, thus, fostering a sense of belonging within the university community and enhancing the overall collegiate experience. For an example, the term Batū (a shortened form of the surname Batuwatta) functions as a nickname of solidarity and closeness, while also suggesting the trait of smaller body figure (*batu* is used as a Colloquial Sinhalese non-literal term that denotes smallness in size). As Holmes (2013) mentions, nicknames are often used in backstage interactions characterised by more informal and colloquial stylistic features and are fundamentally suggestive of a greater degree of closeness and intimacy. Thus, as an informal term of address added to or substituted for the prosoponym of a person, the use of nicknames in university cultures can reflect a multitude of attitudinal viewpoints and sociocultural conventions associated with the expression of affection, familiarity, amusement and even humour.

Appellatives

As the second major source of informal address patterns among the undergraduates, appellatives function as the common nouns or identifying terms (Keats-Rohan, 2007) by which an individual is distinguished from others in terms of the way he/she is related to the speaker. As identified in the survey responses, they mainly involved solidarity terms, endearment terms and descriptive phrases.

i. Solidarity Terms

The solidarity terms used among the undergraduates at the Faculty of Arts are mainly characterised by the union or fellowship arising from common interests and feelings sustained by them as a university community. For instance, the forms of address such as buddy ('close friend'), dude ('fellow': now widely used as a unisex term), *machang* ('brother-in-law' in Tamil and 'friend' in Colloquial Sinhalese), and *machī* (feminine form of *machang* mostly used in conversational Sinhalese) greatly signify the affinity, connection and oneness among the interlocutors, the qualities that they are normatively expected to develop throughout the university life. As such, this category of address terms immensely portrays the sociocultural aspects rooted in Sri Lankan context, thereby demonstrating the manners in which solidarity governed behaviours are constructed.

ii. Endearment Terms

Endearment terms refer to the casual forms of address that the speakers use to express sentimental feelings and affection. To illustrate, the major endearment terms perceived to be used among Sri Lankan university students from the survey are love, dear, hun and babe. Besides, when the participants were asked about their views on the use of endearment terms, the majority of the respondents stated that it is natural and normal in private conversations among individuals who share strong intimate relationships, but not in the interactions within public domains. Several other responses indicated the fact that endearment terms positively affect in strengthening bonds and creating comfortable environments, thus avoiding communication barriers among colleagues. It has also been revealed that females tend to overuse endearments even beyond private domains (Dickey, 1997), whereas male students generally apprehend them as extremely awkward and peculiar. On the other hand, as it was evident from the participant responses, it is typically believed within the Sri Lankan context that the use of such terms might sound inappropriate and unprofessional specifically among those who perceive them stereotypically and conventionally, based on the belief that endearment terms are unduly informal and impolite to be used in public domains. This greatly provides insights on the fact that endearment terms are culture-based and gender-specific (Bruns & Kranich, 2021).

Illustrated below are some of the ideas regarding endearment terms extracted from the survey responses:

F 5: I think they show affectionate relationships among students so they can be used to improve connections between each other. But in some occasions they can be indecent and inappropriate.

F 3: For those who share intimate relationships with each other, that's fine and those terms strengthen their bond too I think. But in the presence of fellow colleagues in public domains, they might sound too informal.

M 2: Very popular among girls!

iii. Descriptive Phrases

The descriptive phrases are basically intended at attributing a particular quality or characteristic specific to the person being addressed (most commonly third person reference). To exemplify, the terms of address *repā* (batch representative), *roomā* (male room-mate), *roomilā* (female room-mates), and girlie (girl or young woman) are some of the descriptive phrases used in the informal interactions between undergraduates. Afful (2006) finds that descriptive phrases fundamentally serve as either attention-getters or identifiers, thus can be considered as effective pragmatic tools to be used when the addressee's personal name is unknown. Additionally, considering the university students as a distinct community, this type of address terms exhibit their common characteristics, opinions and interests, specifically within the contexts where such names are used and are attributed different traits according to someone's disposition. In this sense, descriptive terms point to a higher level of solidarity among the interlocutors, since their usage mirrors an achievement of a sense of belonging and like-minded demeanours.

Campus Cards

'Campus cards' generally refer to the culturally derived address terms or nicknames created with the purpose of exposing students to the socialization process within the university sub-culture. The origin of 'campus cards' dates back to the Black July riots (anti-Tamil pogroms and ethnic violence that occurred in Sri Lanka during July 1983) where the university undergraduates used identifying terms called 'cards' to conceal their real names and identities, in order to avoid discrimination and threats of exclusion. This practice, subjected to different modifications over time, is now

regarded as an important aspect of university communities in the country, and acquiring a 'campus card' signifies a student's acquiescence to university sub-culture. Usually a junior student receives a 'card' from a senior, and once the process is completed, he/she is considered to have embraced the university sub-culture along with the acquisition of its norms and adherence to its traditions. The person receiving a 'card' is required to use it in all informal communicative encounters within the university in place of their real name, and that particular term of address necessarily functions as an agent of socialization that makes him/her feel a sense of belonging to a real university community.

Furthermore, it is important to note that in Sri Lankan university domains, 'campus cards' can represent intercultural dynamics based on factors such as the socio-economic background of a student, specific character traits related to their cultural upbringing, their active participation in community activities etc. upon which the derivation of a particular term is determined. Some examples for 'campus cards' would be Jupiter (the one who is very interested in astronomy) and Otara (the one who loves animals; the term basically refers to a Sri Lankan animal welfare advocate who has the same name). The mode of acquiring a 'card' can vary from one university to another as well as between different faculties of the same university and according to the sociocultural setting of the particular university. In this regard, most of the UOC FOA students who responded to the survey stated that 'campus cards' give someone a unique identity associated with his/her behavioural dispositions and performances while facilitating friendly and long-lasting relationships, and therefore strengthen the fellowship and inclusive bonds among each other. Since the university itself is a multicultural entity, the 'campus cards', in this context, extensively contribute to enrich and widen the repertoire of address terms with the employment of creative, innovative, humorous and sarcastic terms as well.

The following extracts show the respondents' attitudinal viewpoints concerning 'campus cards':

F 5: *I'm okay with them but in my opinion, those terms should not be inappropriate (or sense like slang). The person who bears the card should feel comfortable calling with it.*

F 10: *As university students they have to follow the sub-culture, and should undergo the socialization process to use cards. Personally, I believe it's an acceptable practice because it gives you a real university experience as an undergraduate.*

M 3: *For less interactive and introvert people, having a card would be a good thing to get along with others because it helps to build up friendly, informal interactions with others and makes you feel attached to a social group.*

M 7: *Pretty cool as long as the students are not forced to use them and if they can be used with the other person's consent.*

Kinship Terms

Kinship terms involve the system of names applied to represent familial relationships, which are however primarily utilised within Sri Lankan university cultures as non-relational address terms. The use of this category of address terms among the undergraduates at UOC FOA includes either addressing by one particular kinship term

such as *akka* (elder sister) or by combining one of the prosoponyms, appellatives or 'campus cards' with a kinship term such as Taniya *akka* (elder sister Taniya). As evident in the Table 2 below, when participants were asked how they would address the students in senior and junior batches as well as their own batchmates who are older in age, the use of either the first names or nicknames or 'campus cards' along with a kinship term was the majority's preference. It is noticeable that although university students frequently use Sinhalese kinship terms such as *ayya* (elder brother) or *akka* (elder sister) when referring to a student older in age along with a prosoponym, an appellative or a 'campus card', when addressing those who are younger in age, kinship terms such as *malli* (younger brother) or *nangi* (younger sister) are not very predominantly used; younger addressees are usually called only by the specific term of address (i.e. their first name or nickname etc.) without a kinship term. Besides, the most preferred terms of addressing an elder or a younger batchmate (i.e., a student of the same year or cohort) are either a prosoponym or an appellative or a 'campus card' only, without a kinship term. The quantitative data therefore suggest that institutional seniority is a more powerful variable than age in the choice of a kinship term as a form of non-relational or non-familial address within the university setting. Hence, the level of solidarity maintained within informal interactions among the undergraduates is essentially grounded in the degrees of respect and recognition attributed to senior or junior status in university culture.

Table 2: The use of kinship terms

The addressee / Term of address	A kinship term referring to younger/ older in age	A prosoponym / an appellative/ A 'Campus card'	A Prosoponym / an appellative / a 'Campus card' along with a kinship term
A student in a senior batch	69.2%	19.2%	84.6%
A student in a junior batch	76.9%	88.4%	65.3%
An elder or younger batchmate	7.6%	80.7%	69.2%

Source: Developed by author, survey statistics, 2022

Honorifics

Honorifics, the titles or words that imply respect, are mostly utilised by UOC FOA students when addressing Buddhist clergy in solidarity governed interactions in the university. Even though the interactional setting is informal, the students typically employ formal honorifics like reverend, thero, *swāmin wahanse* or *hāmuduruwane* to address Buddhist monks. The term *sādu*, which is a relatively more informal honorific, is also used. According to Karunatillake &

Suseendirarajah (1975), these address terms depict a considerable regional variation in their usage where each term is used among groups of people belonging to a distinct community of a particular geographical region in Sri Lanka. Therefore, the aforesaid address practices remarkably signal the conformity towards broader social standards deeply ingrained in Sri Lankan culture, pertaining to the deference and politeness shown towards religion (Zainal et al., 2022) and members of the clergy.

Similarly, the survey responses show that the other typically formal honorifics such as madam, sir, my lady, your highness are used predominantly in a non-literal and figurative sense to convey sarcasm, strong intimacy and friendship or extreme courtesy in informal settings. In this context, honorific terms become the indicators of intense informality and solidarity established with regards to non-official domains of communication.

Compound Phrases

Compound phrases refer to rich and creative coinages formed by combining several of the aforementioned forms of address together. In general, compound phrases often take the following major forms:

1. A prosoponym or an appellative joined to a descriptive phrase – Nethu girlie, Pasi boy
2. A prosoponym or an appellative joined to a kinship term – Isuri *nangi*, Mudi *ayya*
3. A 'campus card' joined to a kinship term - Nēha *akki*, Jupiter *malli*
4. A 'campus card' joined to an honorific or endearment term – Lady Otara, Moni love
5. A prosoponym or an appellative joined to an honorific– Seewali *sādu*, Sayuri madam

The employment of compound phrases as mentioned above indicates that university cultures play a key role in expanding the existing linguistic repertoire of address terms with rich and innovative sub-cultural and intercultural elements embedded within informal address practices. A significant number of social variables as illustrated in Table 3 below play a key role in the formation of these address terms. These variables exhibit the distinct cultural and psychosocial dynamics of Sri Lankan society.

Social Variables that Affect the Choice of Informal Address Terms within University Culture

The social variables that influence the creation and use of the informal terms of address described in the categories above can be determined by the participants' responses. The participants indicated that the factors they would take into consideration in deciding how informally they are to address their batchmates at university, are friendship or intimacy, familiarity, seniority, gender and reverence (Table 3). These data primarily depict the fact that the variables of age gap, gender, respectability, seniority and formality of the social context play a key role in the use of informal address terms within specific contexts in the university. In addition, individual preferences and familiarity levels between interlocutors that contribute to the selection of informal address terms within specific university contexts further personalize communication dynamics, highlighting the nuanced nature of interpersonal interactions within academic environments.

Table 3: Social variables that affect the choice of informal address terms within university culture

Friendship and intimacy	Seniority	Familiarity	Gender	Respectability
88.4 %	69.2 %	76.9 %	53.8 %	73 %

Source: Developed by author, survey statistics, 2022

When asked if there are specific contexts in which university students tend to change the above reported address practices in communication, all the respondents indicated that the way they address someone (and vice versa) is dependent on the context in which they are interacting. The participants had also specified that they usually tend to change their preferences in addressing colleagues within the university when doing academic presentations in classrooms, attending to informal gatherings, club events and collective workshops, and referring to their colleagues in the presence of academic staff, senior students and unknown people etc. It is clear that these particular settings made a change due to the formality of the events and the compliance with lesser solidarity during work-related and academic-oriented interactions. As indicated in Table 4, when they were further asked about their most preferred term by which they should be addressed by colleagues in different interactional settings at university, a majority of the respondents stated that they would prefer one particular term of address due to the unique identity and familiarity it provides. Others, however, were comfortable with being addressed by multiple terms, on one hand, with the consideration of the choices of the interlocutors; and on the other hand, for the avoidance of misunderstandings arising from the identification of people with the same names. Thus, the heterogeneity of address behaviour can avoid crises in communication springing from the efforts to identify people with the same or multiple names, while enabling the speakers to arrive at multiple interpretations based on universal standards (Awoonor-Aziaku, 2021; Braun, 1988).

Table 4: Preference of using informal address terms

With one particular term of address in all settings	Comfortable with being addressed by multiple terms
53.8 %	46.2 %

Source: Developed by author, survey statistics, 2022

To ascertain the extent to which UOC FOA students' use of different address terms suggest the degree of solidarity governed behaviour, the participants were also questioned on how they would possibly address a colleague at the first meeting (assuming that the respondent has not communicated with the addressee before, but knows the

way he/she is being addressed by the others). It is worth noticing that the prosoponyms are the choice of the majority in such a situation, as indicated in Table 5 below. Appellatives and 'campus cards' showed an equal number of preferential responses, whereas several other responses suggested that it depends on the addressee's request and how he/she would seem familiar and friendly to the respondent (Table 5). As a whole, it is observed that the broader cultural and linguistic norms prevalent within the university community shape individuals' perceptions and choices regarding informal address terms where these aspects reflect collective values and beliefs, impacting the social dynamics of communication and interaction among members of the academic community. Therefore, these findings foreground the idea that numerous social and psychological facts including first impressions, attitudes and judgments made upon each interlocutor's speech and disposition influence the selection of a particular address form or forms in a specific conversation or other informal interaction.

Table 5: Terms used to address a colleague in the first meeting

Prosoponyms	Appellatives	' Campus cards'	Kinship terms	Depends on the addressee and situation
84.6 %	42.3 %	42.3 %	26.9 %	88.4 %

Source: Developed by author, survey statistics, 2022

In summation, the participants' overall ideas on different informal address practices among university students denoted that as long as the addressee is comfortable with the particular terms and is not hurt or disrespected by their usage, such terms can establish a strong sense of affection, friendship, and fraternity among students not only in their academic life but also in their after-university life since they will be good memories to cherish. Presented below are excerpts from the survey which demonstrate some of the respondents' opinions in this regard:

F 6: *Some terms which are generally considered as rude/ impolite might be the signs of strong, intimate, long-lasting bonds among close friends. So, it depends on how each person communicates with others in close and familiar manners.*

F 20: *It is better to have such ways of informal addressing as they show the level of intimacy and how far the fraternity has developed within such a short period of time spent within the university.*

M 6: *I think it's a subjective matter for everyone as each have their own ways to communicate with others according to their preferences and closeness.*

M 17: *In interactions with my fellow colleagues, I have largely noticed that using nicknames and cards or a typical*

term like 'machang' make them engage in more fruitful and friendly conversations as they sense strong intimacy in such terms.

Lee and Cho (2013) observe that the degree of solidarity, closeness and intimacy is greatly implied by the inherently reciprocal relationships shared among the members belonging to a culturally defined social group. Similarly, as it is evident from the responses above, informal address practices used in UOC FOA culture profoundly reveal the interlocutors' identities, psychological stances and impressions as well as the choices depending on the nature of social relations and conversation-specific circumstances. Furthermore, these practices highlight the adaptability and flexibility of language use, as individuals adjust their address choices based on the nature of social relations and specific conversational circumstances. This adaptability underscores the complex interplay between language, culture, and interpersonal dynamics within the university community, shaping the ways in which individuals navigate social interactions and construct their social identities.

CONCLUSION

Based on the analysis of the data gathered from the participants of this study, it is evident that the address practices among university students in interactions governed by solidarity behaviour are primarily characterised by sociocultural specificities and attitudinal viewpoints of the interlocutors. Since communities with like-minded and similar-dispositioned individuals are the core of the reciprocal solidarity semantic, the employment of informal terms of address as a crucial aspect of language use within multicultural settings can be regarded as a means of identifying the dynamics of social mobility and interculturality. In addition, this particular linguistic behaviour, according to Brown and Gilman (1960), further entails the levels of power equivalents and mutual use of familiar forms, which are the decisive factors in determining the degree of solidarity established among the speakers. In this regard, informal address strategies among Sri Lankan university students encode the solidarity-governed relationships and attitudes of interlocutors, in terms of their multitude of distinctive usages being substantially open to multicultural, intercultural, and sub-cultural variations. Therefore, the diversity of patterns of address employed by university students in informal interactions and their context-specific preferences and usages greatly provide insights into the fact that interpersonal and intercultural relationships involving friendship, intimacy, and solidarity are socially and strategically constructed.

The verbal behaviour of UOC FOA students identified in this research about the employment of personal address terms, appellatives, honorifics, 'campus cards', kinship terms, and compound phrases are greatly reflective of their approaches to fostering and negotiating effective communication as members of a specific university community. Owing to the fact that UOC FOA attracts students from all over Sri Lanka belonging to a multi-religious, multi-ethnic, and multi-cultural populace, the usage of informal address terms among themselves becomes a prominent indicator of a linguistically enriched culture within the university. The very complexity and variety of address strategies they adopt constantly embody the social reality behind the choices of informal address practices from their own perspectives and

shed light on how language is used and understood in colloquial academic encounters. Furthermore, considering the extent to which the solidarity is maintained in their use of address practices in informal interactions, the examination of personal preferences in conversational shifts foregrounds the notion that the dimensions such as the degree of circumstances, intimacy, familiarity, seniority, deference, and formality constantly bring about the structures of values that shape linguistic forms, social contexts and dynamics of intercultural communication elicited by their specific usages. Consequently, it is worth emphasising that, while exhibiting intimate, amiable, and unified communions shared among interlocutors, the semantic parameters of solidarity as observed in informal address practices employed by university students in Sri Lanka are remarkably emblematic of the realistic social standards and norms embedded within their respective cultural contexts.

ACKNOWLEDGEMENT

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Navigating Economic Uncertainties: A Deep Dive into China's Impact on Africa's Global Value Chains

SLJSSH

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Abstract

This paper investigates the nexus between the economic policy uncertainty of China and Africa's global value chains (GVC). The study was based on a panel analysis of pooled mean group (PMG) estimation which covers 19 years and 10 countries. The results of the estimation revealed a mixed reaction to the impact of China's economic policy uncertainty on Africa's global value chains. The economic policy uncertainty (EPU) indicated a short run negative effect on GVC and a positive significant effect in the long run. The result is in line with a section of the previous reports which suggests that uncertainty could have a positive effect on trade flows. This shows that the immediate shock of the EPU is detrimental to Africa's global value chain integration. However, as we approach the long run, Africa's global value chains improve alongside the EPU of China. It is therefore recommended that African countries diversify their trade partners through fostering good partnerships with other countries and regions beyond China, so that sudden uncertainty shocks in China's economy will not have much effect on their economies. Lastly, African decision-makers should invest in domestic industries while promoting a conducive environment for business to thrive. This will boost domestic production and reduce reliance on foreign intermediate products.

Keywords: Economic Policy Uncertainty, Global Value Chains, Pooled Mean Group

INTRODUCTION

The framework of the global value chains (GVC) illustrates the sector's involvement in the series of activities essential for bringing a commodity from its initial conception to production and sales (Hernandez et al., 2014). The literature explores the identification of activities and technologies retained as core competencies within a firm, as well as those outsourced to other firms domestically or internationally. This analysis emphasizes the cross-border connections between firms participating in global production and distribution systems. The global reorganization of production across different segments of the value chain carries significant implications for African countries. Each segment in the value chain employs distinct combinations of production factors, presents varied opportunities for value addition and backward linkages, and offers unique prospects for the development of specific technological capabilities.

Consequently, GVC presents opportunities for countries to participate profitably in the global network of production systems, irrespective of the requirements across the entire production process (Obasanjo et al., 2021). This suggests that Africa as a developing region, can capitalize on their comparative advantages and specialize in specific aspects of the fragmentation (Ajide, 2023). Global trade can therefore be transformed, influencing the dynamics of both imports and exports (Pan, 2020).

Despite the benefits that GVC have brought to international trade, it is crucial to acknowledge that African nations consistently demonstrate a relatively low level of engagement. Reports indicate that in 2018, African countries accounted for only 2.3% of global output and contributed 2.5% to global value added (Krantz, 2022). In the same vein, Africa's involvement in regional value chains participation is estimated at 2.7%, in sharp contrast to Latin America and the Caribbean at 26.4%, and developing Asia, where it reaches a significantly higher 42.9% (OECD, 2022). These statistics underscore the limited extent of Africa's participation in global value chains. The consequences of this modest involvement in GVC require careful consideration and the implementation of effective solutions to facilitate successful upgrading.

To better understand the challenges of Africa's low level of integration into GVC, we examined the impact of China's EPU on Africa's GVC. Africa is a major trading partner of China, supplying raw materials essential for China's industries, while China serves as a primary market for African exports. Given this strong economic tie, any shifts in China's trade policies or economic uncertainties are likely to affect Africa's GVC. The heavy dependence on external factors, particularly China's demand for raw materials or China's exchange rate movements, leaves African countries vulnerable to disruptions in the flow of goods and services

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(Ren and Sakouba, 2024). Most African nations, being heavily reliant on imports and unable to influence global prices for their exports, are especially susceptible to shocks in global demand and price fluctuations, making them prone to external economic disruptions.

Previous studies explain the importance of global value chains in Africa (Alhassan et al., 2021; Montfaucon et al., 2022; Ajide, 2023) as well as the implications of China's policy uncertainty (Wang and Wu, 2023; Huang and Luk, 2020; Hu and Liu, 2021). However, none has been able to examine the influence of China's EPU on Africa's GVC, despite China being one of Africa's most important trade partners. As traditional measures of global trade evolve, the significance of Africa's global competitiveness becomes increasingly vital. The effects within the GVC demand serious attention, necessitating effective solutions to ensure the removal of GVC impediments to Africa's participation.

LITERATURE REVIEW

Theoretical Literature

Countries become interdependent through GVC, specializing in specific tasks rather than handling the entire production process (Baldwin, 2011). As goods are exported, imported, and re-exported multiple times, all countries involved in providing intermediate inputs, benefit. This interconnected dynamic, often referred to as the "flying geese paradigm," has driven merchandise trade growth by 628.25% from 1990 to 2018 (World Trade Organization, 2019), underscoring the critical role of GVC participation in fostering economic growth and development.

The advent of GVC has thus made the production of a commodity not be solely determined by a country's absolute or comparative advantage or factor abundance; rather, it hinges on the ability to produce at lower costs, which is influenced by the availability of raw materials and labour costs in different countries (Ulfani and Ernawati, 2023). Consequently, some components may need to be imported for further processing, leading to various stages of production occurring across multiple countries. However, a significant challenge to this process is the uncertainty surrounding the economic policies of foreign partners, particularly when a domestic economy is highly dependent on these partners for intermediate inputs. Zhang et al. (2024) argued that increased economic uncertainty in a foreign economy can disrupt the sourcing of intermediate inputs by a domestic economy, resulting in value chain disruptions. This highlights a cross-border spillover effect, which EPU can transmit through exchange rate fluctuations and imported inflation, thereby affecting GVC. Other economic writers (Balli et al., 2017; Jiang et al., 2019; Colombo, 2013; Klößner and Sekkel, 2014; Sanni, 2024) also support the notion that economic policy uncertainty can have detrimental effects on domestic and bilateral economies. Conversely, some studies suggest that economic policy uncertainty can also yield positive outcomes. They argued that a positive relationship between uncertainty and investment can drive increased trading activities (Kester, 1984; Mitchell and Hamilton, 1988). This indicates that the effects of economic policy uncertainty on economic indicators are multifaceted; they can be both positive and negative depending on the nature of the economy and the specific context of the analysis.

Empirical Literature

Studies on the effect of EPU on other countries' GVC are scarce. As such, most discussions on this subject matter are centred on related economic indicators. According to Caldara et al. (2020), unanticipated policy shifts that result in the rise of policy uncertainty can reduce company investment and economic activity. Additionally, it was discovered that a rise in policy uncertainty affects Chinese businesses' involvement in new international marketplaces (Crowley et al. 2018). Cheng (2017) further indicated that macroeconomic variables are affected by foreign economic policy. Other economic indicators such as increased exports, firms' operations and employment have also been found to be affecting foreign economic policy (Greenland et al., 2019; Feng et al., 2017; Fontaine et al., 2017). Given GVC's influence on achieving a high level of economic growth, the effect of foreign economic policy on other economic indicators as stated earlier, could be detrimental to the economic growth objectives of a domestic economy.

However, a number of economic writers have also argued in favour of EPU, claiming that investment may be stimulated through uncertainty, leading to expansion in trading activities. They posit a positive relationship between uncertainty and investment, which thereafter motivates an increase in trading activities. Therefore, given the 'growth option nature of investment', a rise in uncertainty may enhance its value, thereby encouraging firms to increase their investment (Kester, 1984; Mitchell and Hamilton, 1988). In line with this, de la Horra et. al. (2022) have found that higher EPU exerts a positive significant effect on investment. Mulyani, et. al., (2021) also opined that firms who engage in risk propensity tend to benefit from their investment decisions. Sharma et. al. (2009) also found that risk propensity has a significant influence on investment decisions. This shows that firms may take more risks by increasing their investments with the intention of using them to compensate for the loss incurred by the increase in uncertainty (Arellano et al., 2010; Gilchrist et al., 2014). Jia et. al. (2020) therefore suggest that such a move could have a positive effect on trade. Trade policy uncertainty has also been found in some studies, to influence the global value chains positively (see Cebreros et al., 2018; Handley and Limao, 2017; Kyriazis, 2021; Sanni, 2024a; Reddy et al. 2024). In the analysis of Sanni (2024a), trade policy uncertainty was found to have a short run negative effect on GVC with a long run positive effect. The effect of EPU on trade flow vis a vis GVC could therefore be undetermined as there are two opposing views in regard to their relationships.

In general, earlier research has given useful theoretical as well as empirical understanding of the impact of EPU on GVC. Despite the wide range of theoretical underpinnings, empirical research has largely concentrated on the effects of policy uncertainty on GVC in a single country and at best, advanced economies, while ignoring the role of policy uncertainty on trading partners, especially the developing nations with small, open, emerging economies. The study also considered the role of macroeconomic variables under which the effects of uncertainty on GVC may vary. The objective of the current work is thus to fill up these knowledge gaps and further our insight of how policy uncertainty affects the GVC of trading partners.

Economic Ties between Africa and China

African countries have thus, depended heavily on profitable economic ties with developed nations for economic development despite their abundance of resources and huge potential. The connection between China and Africa has grown in recent years, with Africa being one of China's top trading partners and benefiting from significant infrastructural projects China has undertaken (Cheung et. al., 2012; Cudjoe, Yumei and hui, 2021). Due to China's quest for raw materials to support the development of her economy and Africa's need for manufactured items and relatively lower borrowing costs for her infrastructural projects, China and Africa have intensified their trade and economic relations. For instance, a wide range of consumer, intermediate, and capital products are purchased from China, while China is the primary market for a good number of Africa's raw material and mineral shipments, with 18% of its crude oil imports from Africa (Nyabiage, 2020). In 2019, the total amount of investment from China to Africa also hit a record high of $110 billion, contributing more than 20% of the continent's economic development. Therefore, a sizable portion of Africa's foreign currency earnings and addition to its international reserves can be linked to its transactions with China.

China has a significant economic impact on African economies, much like the rest of the globe; its macroeconomic policy has an effect on the economy of the majority of African nations. As a result, uncertainty in China's economic policy affects their relationships and their ability to trade. Due to these connections, China's ongoing foreign policy changes do not simply have an impact on domestic expectations in Africa; they also have an impact on other nations who interact with Africa (the US for example) and thereby having an indirect impact on Africa's trade. African countries may be less equipped to withstand uncertainty shocks brought on by much stronger economies than other emerging nations since they are the poorest continent in the world.

Interactions with China and other advanced economies coupled with greater international commerce have been two of the greatest ways African economies have been able to experience significant progress. African countries have made consistent economic success since the late 1990s. The IMF has thus elevated some African nations (including Ghana, Kenya, Nigeria, and Tanzania) to emerging markets classification as a result of their consistent successes (Olasehinde-Williams and Olanipekun, 2020).

Despite this progress, policy uncertainty from a strong trade partner could jeopardize their growth. China for example faces challenges ranging from economic slowdown, increase in unemployment and reduction in the performance of industries (Usman and Xiaoyang, 2024). As such, it calls for changes in economic policy. These changes therefore affect economic variables which is important in the international trade dynamics. Exchange rate for example is an important tool used by China to re-strategize its trading activities. This singular policy instrument can be used to flood other countries' markets when it is devalued, leading to mass importation of Chinese products. Similarly, it can be overvalued leading to an increase in the price of raw materials in other countries. Among the reasons why African countries are affected by such policies is the single-product nature of the African economy; export of low competitive raw materials on the global market, which has reduced their influence in setting the global market prices. Their macroeconomic variables thus experiences instability due to external policies and risks pushing global demand and prices for their main export commodities. The fact that these economies are so susceptible to outside influences explains why the uncertainty caused by negative economic policies throughout the world may sometimes undermine the numerous gains that Africa achieves over time.

MATERIALS AND METHOD

Model Specification

The empirical model for this study was derived from the study of Bussiere, et. al., 2011 and Constantinescu et. al., 2019. The effect of ChinaEPU on AfricaGVC is examined using the PMG estimation procedure of Pesaran et. al. (1999). The panel version of the model is as follows;

$$lnGVC_{it} = \alpha_i + \sum_{j=1}^{p} \gamma_{ij} lnGVC_{it-j} + \sum_{j=0}^{q} \partial_{1ij} lnChinaEPU_{it-j} + \sum_{j=0}^{q} \partial_{2ij} lnEXCH_{it-j} + \sum_{j=0}^{q} \partial_{3ij} lnINF_{it-j} + \sum_{j=0}^{q} \partial_{1ij} lnGDP_{it-j} + \varepsilon_{it} \quad (1)$$

Where lnGVC is the GVC index of the selected African countries, lnChinaEPU is China's economic policy uncertainty index, lnEXCH is the exchange rate, lnINF is inflation and lnGDP is the gross domestic product. The i represents the 10 cross-sectional units (10 countries), the t represents the 19-year period covered by the study and the ε is the error term.

The a-priori expectations of equation (1) are; it is expected that $\partial_1 < 0$ which means that GVC is expected to decrease due to an increase in China's economic policy uncertainty. The coefficient of exchange rate is expected to be negative, i.e., $\partial_2 < 0$, which means, as the rate of exchange falls, the global value chains increase. The rate of inflation is also expected to have a negative effect on the coefficient of the global value chains i.e., $\partial_3 < 0$, which means that as the rate of inflation decreases, global value chains rise. And lastly, the coefficient $\partial_4 > 0$ states that an increase in gross domestic product will lead to a rise in the global value chains ceteris paribus. The re-parameterized form of the equation which follows the Pesaran et. al. (1999) is given in equation (2). The lag of ChinaEPU is equally added into the model, in order to isolate its effect on Africa's GVC. This was done in order to provide stronger evidence for a potential cause and effect relationship rather than just a mere correlation between China's economic uncertainty and the global value chains.

$$\Delta lnGVC_{it} = \alpha_i + \varphi_i lnGVC_{it-1} + \beta_{1i} lnChinaEPU_{it} + \beta_{2i} lnEXCH_{it} + \beta_{3i} lnINF_{it} + \beta_{4i} lnGDP_{it} + \sum_{j=1}^{p-1} \gamma_{ij} \Delta lnGVC_{it-j} + \sum_{j=0}^{q-1} \partial_{1ij} \Delta lnChinaEPU_{it-j} + \sum_{j=0}^{q-1} \partial_{2ij} \Delta lnEXCH_{it-j} + \sum_{j=0}^{q-1} \partial_{3ij} \Delta lnINF_{it-j} + \sum_{j=0}^{q-1} \partial_{4ij} \Delta lnGDP_{it-j} + \sum_{j=0}^{q-1} \partial_{5ij} \Delta lnChinaEPU_{it-1j} + \varepsilon_{it}$$
(2)

Two estimators have been introduced by Pesaran, et al. (1999) for increased flexibility in handling parameter heterogeneity. In estimating the mean group analysis, separate equations for every country are enabled which caters for the heterogeneity in all their coefficients, while

the entire panel coefficients are computed as individual coefficients.

The pooled mean group differs from the mean group as it prefers a heterogeneity of a lower degree by estimating a long run coefficient homogeneity of the units with the consideration for short run heterogeneity across the units. The PMG estimator thus has some essential assumptions as described by Pesaran et al. (1999), the error terms exhibit no serial correlation and are unrelated to the regressors, indicating that the explanatory variables can be considered exogenous. Both the dependent and independent variables exhibit a long run relationship. And lastly, the long-run parameters are consistent across the cross-sectional units.

To determine the suitability of the PMG estimator relative to the MG estimator, one can conduct tests based on the consistency and efficiency properties of both estimators, using either a likelihood ratio test or a Hausman test. These tests help assess which estimation approach is more appropriate for capturing the underlying characteristics of the data and yielding reliable results (Simões, 2011).

Data Description

The study made use of a balanced panel data from 2000 to 2018 (the longest data for the dependent variable – GVC). The study period and the number of countries (Algeria, Angola, Cote D'voire, Egypt, Ghana, Kenya, Morocco, Nigeria, South Africa and Tanzania) selected was driven by the availability of data and the need for a balanced panel data structure. The GVC is measured in US dollars and obtainable from the UNCTAD-Eora GVC Database. EPU index of China is the Davis et al. (2019) index. Data on exchange rate, inflation, GDP and industrial value added were sourced from World Development Indicators. The logarithmic transformation of the variables is used in the estimation in order to facilitate the interpretation and address issues relating to non-linearity, non-normality, and heteroscedasticity present in the data (Olasehinde-Williams and Oshodi, 2021).

Table 1: Descriptive statistics

Variable	Obs.	Mean	Std.Dev.	Min.	Max.
GVC	190	15.409	1.393	12.635	18.028
INDU	190	23.735	1.237	20.959	25.676
ChinaEPU	190	4.457	0.536	3.571	5.627
INF	190	1.826	1.071	-1.081	5.784
EXCH	190	3.84	2.065	-0.607	7.725
GDP	190	25.02	2.065	22.329	27.076

Source: Authors' computation, 2024

Table 2: Correlation matrix involving GVC as the dependent variable

	Lngvc	LnChinaepu	Lnexch	Lninf	Lngdp
Lngvc	1.000				
LnChinaepu	0.322*	1.000			
Lnexch	-0.267*	0.108	1.000		
Lninf	-0.162*	-0.034	-0.136	1.000	
Lngdp	0.346*	0.428*	0.300*	-0.387*	1.000

Source: Authors' computation, 2024

Note: * represents p-value at 10%

The correlation matrix is presented in Table 2. The purpose of this table is to show the potential relationships between the variables under study. The table indicates that GVC has a direct relationship with ChinaEPU and GDP, while it has an inverse relationship with EXCH and INF. The result also shows the absence of multicollinearity between the variables because the highest value of correlation among the variables is 0.428, which is less than the threshold of 0.80 (Field, 2009). Table 3 presents the panel unit root comprising 3 different methods. This is to ascertain the unit root levels of the variables. The unit root test results indicate that global value chains (LnGVC) and inflation (LnINF) are both stationary at levels across the three-unit root tests. Similarly, China's economic policy uncertainty (LNChinaEPU) and the exchange rate (LnEXCH) are stationary at the first difference, while gross domestic product (LnGDP) and industrial value added (LnINDU) are stationary at levels under the Levin, Lin, and Chu test, but stationary at the first difference according to the Im-Pesaran-Shin test. The stationarity levels of these variables confirm that the requirements for PMG estimation are satisfied, as all variables fall within the I(0) and I(1) bounds (Pesaran et al., 1999).

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Table 3: Panel unit root tests of Im-Pesaran-Shin, ADF-Fisher and Levin-Lin-Chu

Variables	Im–Pesaran–Shin	Level of significance	ADF-Fisher	Level of significance	Levin, Lin and Chu	Level of significance
LnGVC	-2.351***	I(0)	32.898**	I(0)	-6.201***	I(0)
LnINDU	-4.245***	I(1)	53.401***	I(1)	-3.840***	I(0)
LnChinaEPU	-3.402***	I(1)	42.792***	I(1)	5.563***	I(1)
LnINF	-3.533***	I(0)	48.374***	I(0)	-3.402***	I(0)
LnEXCH	-4.195***	I(1)	52.135***	I(1)	-5.070***	I(1)
LnGDP	-3.991***	I(1)	51.316***	I(1)	-4.153***	I(0)

Source: Authors' computation, 2024

Note: ***P-value < 0.01, **P-value < 0.05, *P-value < 0.1,

Table 4: Johansen fisher panel cointegration test

Hypothesized No. of CE(s)	LNGVC trace Statistic	Prob	LNINDU trace statistic	Prob
None	361.3	0.000	339.9	0.000
At most 1	204.6	0.000	193.2	0.000
At most 2	89.44	0.000	108.6	0.000
At most 3	38.51	0.008	50.56	0.000
At most 4	27.92	0.113	29.52	0.078
		Trace Test		
		Individual cross sections		
Cross section	**Trace Statistics**	**Prob.****	**Trace statistics**	**Prob.****
		Hypothesis of no cointegration		
Algeria	127.025	0.000	113.530	0.000
Angola	177.422	0.000	200.577	0.000
Cote dIvoire	221.849	0.000	132.585	0.000
Egypt	113.322	0.000	151.523	0.000
Ghana	141.068	0.000	107.276	0.000
Kenya	99.903	0.000	119.313	0.000
Morocco	171.377	0.000	108.218	0.000
Nigeria	167.326	0.000	119.371	0.000
South Africa	NA	0.500	1001.077	0.000
Tanzania	120.020	0.000	150.535	0.000
		Hypothesis of at most 1 cointegration relationship		
Algeria	43.956	0.111	64.315	0.001
Angola	99.762	0.000	99.739	0.000
Cote dIvoire	105.249	0.000	74.005	0.000
Egypt	65.516	0.001	83.972	0.000
Ghana	72.404	0.000	54.721	0.010
Kenya	44.936	0.092	55.960	0.007
Morocco	73.109	0.000	64.452	0.001
Nigeria	98.031	0.000	68.788	0.000
South Africa	505.396	0.000	530.659	0.000
Tanzania	61.087	0.002	83.423	0.000

Hypothesis of at most 2 cointegration relationship				
Algeria	17.797	0.581	25.873	0.133
Angola	54.134	0.000	49.241	0.000
Cote dIvoire	37.081	0.006	33.718	0.017
Egypt	27.855	0.082	42.226	0.001
Ghana	32.087	0.027	21.799	0.310
Kenya	17.476	0.605	27.824	0.083
Morocco	25.598	0.141	29.144	0.059
Nigeria	41.696	0.001	36.754	0.007
South Africa	52.944	0.000	74.568	0.000
Tanzania	28.552	0.069	34.387	0.014
Hypothesis of at most 3 cointegration relationship				
Algeria	4.398	0.869	8.280	0.436
Angola	21.935	0.005	23.757	0.002
Cote dIvoire	12.734	0.125	12.068	0.154
Egypt	9.650	0.309	14.299	0.075
Ghana	9.634	0.310	7.700	0.498
Kenya	5.156	0.792	11.479	0.184
Morocco	11.707	0.172	10.519	0.243
Nigeria	11.822	0.166	16.758	0.032
South Africa	18.148	0.020	20.613	0.008
Tanzania	11.110	0.205	11.826	0.166
Hypothesis of at most 4 cointegration relationship				
Algeria	0.857	0.355	0.179	0.672
Angola	5.554	0.018	5.972	0.015
Cote dIvoire	0.131	0.718	1.310	0.252
Egypt	0.944	0.331	2.718	0.099
Ghana	1.882	0.170	0.114	0.736
Kenya	1.358	0.244	2.932	0.087
Morocco	2.783	0.095	1.255	0.263
Nigeria	0.648	0.421	0.664	0.415
South Africa	0.040	0.842	0.971	0.324
Tanzania	0.716	0.397	0.144	0.704

Source: Authors' computation, 2024

Table 5: Kao panel cointegration test

Test	Model 1 (GVC) T-Statistic	Model 2 (INDU) T-Statistic
ADF	-3.875***	-2.789***
Variance		
Residual	0.015	0.017
HAC	0.014	0.019
Augmented Dickey-Fuller Test Equation		
Variable	Coefficient	Coefficient
RESID(-1)	-0.321***	-0.235***
D(RESID(-1))	0.140**	0.132*
Durbin watson	2.014	2.074

Source: Authors' computation, 2024

Note: ***P-value < 0.01, **P-value < 0.05, *P-value < 0.1

Given the cointegrations tests above, the two methods used in this study indicate the presence of a long run panel cointegration in the models. Starting from the Fisher cointegration results, the trace statistic measures the overall evidence of cointegration in the data. The probability value for all tested ranks (None, at most 1, 2, 3 and 4) are close to zero for both models except in model 2 where it is not significant at most 4. This shows evidence against the null

hypothesis of no cointegration in the model and suggests a strong presence of cointegration in the panel data set. The individual cross-sectional results are also statistically significant with p-values close to zero and suggest the presence of cointegration at the individual cross-sectional level.

The Kao cointegration test also shows that there exists the presence of cointegration among the variables in the two models. The ADF test statistic with reported -3.875 and -2.789 in models one and two respectively and with a corresponding p-value of less than 0.01 in both models, coupled with their negative test statistic, suggests evidence against the null hypothesis of no cointegration. The p-values of less than 5% suggest that the models are statistically significant. The lower values of the HAC and residual variance show that the models are good to fit and that the cointegration models are reliable. The Kao cointegration test also shows the estimates of the coefficients for the variables in the ADF test which shows that the lagged residual (RESID(-1)) is -0.321 and the lagged differenced residual coefficient (D(RESID(-1))) is 0.140. The residual coefficients thereby show the effect of the lagged values on the current value. The Durbin-Watson statistic of 2.014 also indicates the absence of autocorrelation in the model. Overall, the results show strong evidence of panel cointegration for a long-term relationship among the variables in the panel. The regression result of equation 2 is given in Table 6.

Table 6: Pooled Mean Group (PMG), Mean Group (MG) and Dynamic Fixed Effect (DFE) Estimates of Equation (2)

Variables	PMG Long Run	PMG Short Run	MG Long Run	MG Short Run	DFE Long Run	DFE Short Run
ECM		-0.327***		-0.849***		-0.270***
D.lnchinaepu		-0.0750**		-0.0152		-0.0599
LD.lnchinaepu		-0.277***		-0.179**		-0.294***
D.lnexch		-0.314*		-0.0034		-0.401***
D.lngdp		0.349**		0.158		0.255***
D.lninf		-0.0029		0.0506		0.00912
Lnchinaepu	0.403***		0.138		0.545***	
Lnexch	-0.276***		-0.284		0.0152	
Lngdp	0.442***		0.791***		0.264**	
Lninf	0.200***		-0.0693		0.0285	
Constant		1.103***		-3.983		1.788***
Hausman		4.28				
Observations	168	168	168	168	168	168

Source: Authors' computation, 2024

RESULTS AND DISCUSSION

Interpretation of Regression Analysis

We begin by reporting the outcome of the PMG, MG and the DFE results of equation (2) in table 6. We have the result of the Hausman test; its significance level is higher than the 0.1 threshold. The implication of that is that the test statistic rejects the null hypothesis of equality between the mean

group and the pooled mean group estimators. This means that the two models do not differ in terms of their consistency and efficiency. We therefore interpret both with the inclusion of the dynamic fixed effect. In the three estimates, we realized that their speed of adjustment is negative and significant at the one percent level and they become smaller from MG to PMG and to DFE. This shows that the MG has a faster speed of adjustment than the PMG

and DFE and this is in line with Pesaran et. al. (1999). For the short run analysis, the ChinaEPU was only significant under PMG and thereby shows a negative relationship with the global value chains, while its lagged variable was statistically significant in the three models and was also consistent with the negative relationship with the global value chains. Exch was also significant only under PMG and DFE with negative relationships with GVC while GDP shows a positive statistically significant relationship with the GVC at PMG and DFE respectively, and the rate of inflation was not significant with any of the three estimates. For the long run relationships, the ChinaEPU under PMG and DFE show positive relationships with GVC, with both estimates having a significance value of 1%. The rate of exchange was only significant for PMG and also indicates a high level of significance. The GDP was significant for the three estimates and with positive relationship with the global value chains. And lastly, the rate of inflation shows a positive and statistically significant relationship with the GVC under the PMG only.

We also examined the effect of China's economic uncertainty on industrial value added, which is among the components of global value chains in Africa. In this case, we substitute the GVC for INDU and retain all other variables, as we have it in equation (2). The correlation matrix is given in table 7 while the regression result of equation (3) is given in table 8.

$\Delta lnINDU_{it} = \alpha_i + \varphi_i lnGVC_{it-1} + \beta_{1i} lnChinaEPU_{it} + \beta_{2i} lnEXCH_{it} + \beta_{3i} lnINF_{it} + \beta_{4i} lnGDP_{it} + \sum_{j=1}^{p-1} \gamma_{ij} \Delta lnGVC_{it-j} + \sum_{j=0}^{q-1} \partial_{1ij} \Delta lnChinaEPU_{it-j} + \sum_{j=0}^{q-1} \partial_{2ij} \Delta lnEXCH_{it-j} + \sum_{j=0}^{q-1} \partial_{3ij} \Delta lnINF_{it-j} +$

$\sum_{j=0}^{q-1} \partial_{4ij} \Delta lnGDP_{it-j} + \sum_{j=0}^{q-1} \partial_{5ij} \Delta lnChinaEPU_{it-1j} + \varepsilon_{it}$
(3)

Table 7 below shows the nature of the correlation among the variables. The results shown in the table are similar to the ones in Table 2 with a slight difference in the non-significance of the rate of inflation in Table 7. The table therefore indicates that GVC has a positive relationship with ChinaEPU and GDP, while it has a negative relationship with EXCH and INF. The result also shows the absence of multicollinearity between the variables because the highest value of correlation among the variables is 0.428, which is less than the threshold of 0.80 (Field, 2009).

Table 7: Correlation Matrix involving INDU as the Dependent Variable

	Lnindu	LnChinaepu	Lnexch	Lninf	Lngdp
Lnindu	1.000				
LnChinaepu	0.374*	1.000			
Lnexch	-0.169*	0.108	1.000		
Lninf	-0.020	-0.034	-0.136	1.000	
Lngdp	0.269*	0.428*	0.300*	-0.387*	1.000

Source: Authors' computation, 2024

Note: ***P-value < 0.01, **P-value < 0.05, *P-value < 0.1

Table 8: Pooled mean group, mean group and dynamic fixed effect estimates of equation (3)

	PMG		MG		DFE	
Variables	Long Run	Short Run	Long Run	Short Run	Long Run	Short Run
ECT		-0.178***		-0.206**		-0.139***
D.lnchinaepu		-0.0654**		-0.0636*		-0.0528
LD.lnchinaepu		-0.124***		-0.0783		-0.183***
D.lnexch		-0.650***		-0.636***		-0.630***
D.lngdp		0.352*		0.299		0.549***
D.lninf		0.0114		0.03		-0.0560***
Lnchinaepu	0.569***		-0.343		1.079***	
Lnexch	0.0406		-0.0218		-0.166	
Lngdp	0.834***		1.076***		0.181	
Lninf	0.0734		0.266		0.348*	
Constant		0.0323		-0.494		2.088***
Hausman	11.46**					
Observations	168	168	168	168	168	168

Source: Authors' computation, 2024

Note: ***P-value < 0.01, **P-value < 0.05, *P-value < 0.1

We begin the analysis of Table 8 with the result of the Hausman test which is significant at 5%. This implies the rejection of the null hypothesis of equality between the pooled mean group and the mean group. In this instance, there is statistically significant evidence that the consistency and efficiency of the two models are different from one another. The random effects assumption of the MG model is hereby violated given the p-value which is less than the chosen level of significance, in which case the fixed effects approach offered by the PMG model is more suited. The PMG estimator is consistent and efficient, whereas the MG estimator is inconsistent or less efficient as a result of potential individual-specific heterogeneity, as shown by the rejection of the null hypothesis. Nonetheless, we report the outcome of the three estimates since there is no difference in their signs across all the variables but only the significance level has little variation across the variables. All three estimates indicate a negative and statistically significant level of the error correction term indicating their speed of adjustments, which is a bit slow as compared with the equation (2) result. In the short run, ChinaEPU was statistically significant with only PMG and MG with a negative relationship with INDU. The rate of exchange in the three estimates is statistically significant at 1% and has a negative relationship with INDU. The GDP indicates a positive relationship with INDU with statistical significance at both PMG and DFE while inflation was only statistically significant with DFE with a negative relationship with INDU. In the long run, ChinaEPU was only statistically significant with INDU under PMG and DFE and the relationship was positive. GDP was also positively significant with INDU but under PMG and MG estimators. INF was positively significant with INDU with only the DFE estimator while Exch was not statistically significant with any of the estimators in the long run.

CONCLUSION

China, as the world's second-largest economy, undoubtedly wields significant influence, and uncertainties in its economic landscape can reverberate across trading partners. As such, this study delved into the nuanced impact of China's economic policy uncertainty on selected emerging economies in Africa, employing a comprehensive panel analysis to explore both short-run and long-run effects over the period 2000-2018. This is important in order to investigate how China's economic policy uncertainty could affect Africa's global value chains.

The empirical analysis, validated through Kao (1999) and Johansen Fisher panel cointegration tests, substantiates a long-run relationship between China's economic policy uncertainty (EPU) and Africa's global value chains (GVC), considering pertinent control variables. Employing pooled mean group, mean group, and dynamic fixed-effect estimators for short and long-run analyses, our findings unveil a short-run negative effect and a long-run positive effect of China's EPU on Africa's GVC and industrial value added. Remarkably, this indicates consistent impacts on global value chains and industrial value added over both temporal horizons.

The implications of our findings are profound. China's EPU serves as a barometer of the pressure African countries face within their global value chains, highlighting the potential transmission of economic disruptions between regions. The negative short-run impact suggests potential disruptions in trade and investment flows, leading to cautious decision-making by economic stakeholders, potentially delaying investments and reducing imports from Africa. However, the long-run positive effect signals a strategic opportunity for African countries to integrate more deeply into global markets. As uncertainties stabilize, Africa's connection to a Chinese-led GVC strengthens, positioning the continent to capitalize on emerging trade opportunities and industrial development. This long-run positive impact thus offers African countries the chance to strategically position themselves within the global market. By leveraging the strengthening relationship with China, African economies can not only diversify their export markets but also expand their role within global supply chains. In doing so, they can enhance their competitiveness and secure a more sustainable foothold in international trade.

It is therefore recommended that in order to mitigate the effect of China's economic uncertainty, African countries must diversify their trade partners by fostering good partnerships with other countries and regions beyond China so that sudden uncertainty shocks in China's economy will not have much effect on their economies. It is also recommended that strong intra-African trade and cooperation is important in order to foster regional economic integration. It is also recommended that African decision-makers should invest in domestic industries while promoting a conducive environment for business to thrive. This will boost domestic production and reduce reliance on foreign intermediate products.

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Redefining Military Engagement: Shifting From Counter Insurgency to Comprehensive Peacebuilding Mechanism in the Northern Province of Sri Lanka

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Abstract

Sri Lanka was considered one of the most stable and secure nations among the South Asian nations. The Sri Lankan administration only came to know in the several years after independence that maintaining national security was perhaps one of the most challenging and exciting issues the country is dealing with at present. On the international level, it was accepted that the role of the military was essential not only for the protection of the nation's security but also for the population and internal security. Whenever there is an issue of security of a country on any front, the military is seen as having an important role in defending the security of a country. However, it was expected that a very positive and strong feeling of security would be brought back to the country when the military got what it wanted in 2009, and that was to eliminate the LTTE (Liberation Tigers of Tamil Elam) in Sri Lanka. According to this, it would be appropriate to assess and consider the security trends, the peace-making activities, and the military participation of the Sri Lankan nation-state. Building on this, the present study has sought to explore in what way and how the military helped in the process of post-conflict peacebuilding. In the study, a qualitative research method was used to conduct the investigation. Secondary data was adopted for this study whereby information was collected from books, journals and government papers. As per this study, the military of Sri Lanka is not a passive bystander in the defence of the country's security but is using both soft and hard power to ensure the preservation of security as necessary. Drawing from this study, this research brings to focus, the major problem of Sri Lanka that lacks a coordinated national security policy that needs urgent attention and appropriate intervention to protect the safety and security of the nation.

Keywords: Civil Military Relations, Defense, Nation Building, Peace Keeping Operations, Northern Province of Sri Lanka

INTRODUCTION

Off the southernmost point of India is the island country of Sri Lanka. Geographically, this nation is bordered by the Indian Ocean and divided from India by the Palk Strait and the Gulf of Mannar (Global Edge, 2020). Numerous ethnic groups reside in the nation, with the majority being Sinhalese, Tamils, and Muslims, who are spread out across the nation. The Sinhalese have established in the country's Southern, Western, and Central regions, whereas the Jaffna Tamils, who predominately live in the country's northern area are thought to be descended from Indian tribes that first came to the island more than 1500 years ago (Upali, 2017). The plantation labourers that the British tea planters sent to the island throughout the 19th and 20th centuries were Indian Tamils (Migration Profile, 2013). According to Upali (2017), Sri Lanka is a nation with a multicultural, plural society in which all groups coexist in respect for one another's many ethnicities and cultural heritages. Sri Lanka is now classified as a lower-middle-income country by the World Bank, with a GDP per capita of $3,293 (2023) and a total population of a million (World Bank, 2023).

Today, Sri Lanka is regarded as one of South Asia's safest and most secure nations. This unity was attained following the military defeat of the LTTE (Liberation Tigers of Tamil Elam), one of the most cruel and strong terrorist organizations. With a 26-year duration, this war was among the most serious and drawn-out ones in recent memory (Lindberg & Orjuela, 2011). As a result, the conflict was over but no resolution to the underlying national issue had been reached. In 2009, the government finally emerged as the conflict's ultimate victor (Kilavuz, 2017). However, it's crucial to take into account the underlying factors that led to this protracted battle. In 1948, Sri Lanka was able to get its freedom from the British. The many ethnic groups' disputes grew as a result of independence. A number of parliamentary laws were passed causing a lack of cohesion and the Tamils' calls for secession. The British 'divide and rule' strategy, which was primarily based on racial and ethnic differences, was utilized strategically to break up the unity among the various populations and prevent a well-coordinated national rebellion. During the British era,

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"ethnicity was significantly politicized" (Lindberg & Orjuela, 2011:18).

According to Orjuela (2010), "the Tamils' civil disobedience tactics gradually transformed into rebellious acts of militancy against the state" (Orjuela ,2010:67). The northern people started to want their own independent state on their ancestral territories in response to the sporadic incidents of intergroup violence, and they also thought that using force was the only way to solve the problem. According to Orjuela (2010), "the failure of the state to deal with minority aspirations originated as the root causes of the conflict" (Orjuela, 2010:67). According to the Geneva Centre for the Democratic Control of Armed Forces, "the military is an institution established by the state for the purpose of defending the country from external threats and internal conflicts" (Karunarathne, 2014:98). Upholding national security is the military's primary responsibility. One of the main responsibilities of the military is to protect national security from threats both inside and outside the country (Ministry of Defence, 2017). When acts of terrorism were perpetrated, the Sri Lankan military intervened on numerous occasions to preserve peace and security in the nation. "The Sri Lankan military forces defeated the LTTE with all of their hard power, crushing the deadliest military group" (Karunarathne, 2014:98).

Sri Lanka's succeeding administrations have used a variety of tactics to protect national security, including the use of intelligence services and contemporary military techniques. For instance, when racial tensions rose, the Sri Lankan government had to take counterinsurgency measures to ensure that certain neighbourhoods had enough security. Due to violent activities committed by the LTTE during it's high time, some other militant groups were motivated to do extremist work against the religions in the Northern Province (Rajapakse, 2013). National security has been put in jeopardy on numerous occasions. Every single time, the military faced these issues head-on and helped the country achieve success. In fact, since the civil war came to an end in 2009, the military's involvement has proven important and critical. In this situation, the succeeding governments enlisted military assistance to reconstruct the Northern and Eastern regions. Since reconstruction, resettlement, rehabilitation, reintegration, and reconciliation are all regarded as essential responsibilities that would boost national security, the military has been actively involved in the nation-building process in these areas. The military has established itself as one of the state's premier institutions trying to maintain national stability in Sri Lanka throughout this protracted process. Diverse methods can be used to examine this situation's military involvement and its importance in maintaining security in Sri Lanka. Accordingly, this paper explores how the military contributed to Sri Lanka's post-war efforts to maintain national security and promote peace.

LITERATURE REVIEW

The role of the military in Sri Lanka after the conflict has been the subject of several research papers before this one. While current literature focuses on the traditional view of the national security perspective, how the military can enhance human security in the Northern Province needs to be addressed. This study is necessary to understand military involvement in the post-war period in Sri Lanka. Few of

these studies, despite the fact that many of them focused on national security, have examined how the military can help advance human security in Sri Lanka. Finding a research gap, developing a theoretical framework, and comprehending research-related concepts are the major goals of a literature review. This review is expected to bridge the research gap by connecting national and human security, emphasizing the value of the nontraditional role of the military. Many academics and institutions have defined the phrase 'military role.'

Williams (2008) provided a number of concepts regarding what comprises national security and its fundamental tenets. The author took into account a variety of theories about national security, including constructivism, liberalism, realism, and game theory. Additionally, this study focused on a number of crucial contemporary issues, including peace studies, the international arms trade, war, terrorism, genocide and mass murder, ethnic conflict, human security, alliances, regional institutions, contemporary challenges, and private security, transnational organized crime, and energy security. This study is mainly Focused on the different nature of society, that is not limited to the power of the military capacity but extended to which the military can play non-traditional roles such as organized crimes of the society and environmental security (Rajapakse, 2013)

Heywood (2011) discussed national security and its theoretical foundation from a practical standpoint. He has paid close attention to the current state of military strategy, particularly the US and NATO military presence in regions where they have performed operations. This research also discusses events connected to terrorism, human rights, humanitarian intervention, war and peace, and many other topics in international politics. This study offers numerous instances of military strategies for human and national security at various levels. This offers another set of examples from the international system to show how these notions can be applied and appropriated by the Sri Lankan state in its specific post-conflict reality.

Soltani and Yusoff (2012) conducted a thorough investigation into the theoretical underpinnings of the national security concept as well as the national security policies enacted by various nations. As a result, this study discusses the key perspectives on the concept of security taken by rationalism, relativism, and constructivism. The researcher has given comparative studies of national security ideas a lot of consideration in this study. The positivist view, which contends that social and political phenomena can be described in the same manner that scientists explain the natural world, serves as the foundation for the clarifying rationalism presented in this article.

The rationalist approach in relation to Sri Lanka provides the opportunity to analyze the practices of security aimed at the state-centric approach, while the constructivist approach opens up the understanding of the social and political factors of human security.

Höglund and Orjuela (2010) stated that the practical challenges of attempting to avert conflicts were examined for their study. The study also emphasizes how foreign influences are used to shape the internal policies of other

nations. Demilitarization, political power-sharing, justice and reconciliation, post-war reconstruction, economic development, and other conflict avoidance strategies are covered. Even if the conflict in Sri Lanka was resolved after three decades of carnage, the nation is still unable to fully assure human security by using a military strategy. The situation in Sri Lanka both during and after the war can be better understood with the help of the current research. This study is then particularly useful for Sri Lanka in the current context to understand post-war reintegration and reconciliation and the place that the military could occupy in the highly contested questions of political power and justice.

Webeland and Galtung (2007) presented their ideas for the national security and peace studies. This book gives a fundamental overview of conflict and peace studies. The reconciliation process is also analytically discussed. The authors provided real-life examples of rapprochement and establishing peace in many parts of the world. For individuals looking to learn more about the military's function in various nations with a focus on national security and the idea of establishing peace, this research will be of great interest. Placing these real-world examples into the context of Sri Lanka creates a comparative model for engaging with peacebuilding endeavors and the role of the military in these projects.

Karunarathne (2014) presented his view regarding the role of the military by examining how the military can be used to promote development in Sri Lanka, this study concentrated on the function of the military in the post-war era. The study also covered topics like recovery, peace-making, and nation-building theories. There is a discussion of how the Sri Lankan armed forces operated and how they were able to use force to destroy terrorism. Importantly, Karunarathne's work is helpful in examining the role of military forces in post-conflict economic and social reconstruction, which is also part of human security and is missing in the Sri Lankan literature.

Goldstein (2003) outlined the peace-building procedures that came after military intervention. The report gives descriptions of a number of global wars. According to the author, "conflict between states is not an unusual condition but a common one" (Goldstein, 2003). This describes how conflicts are categorized. This research also revealed that "states are increasingly using military might for purposes other than fighting." This book provides some examples of military participation in humanitarian help following disasters, drug trafficking investigations, and peacekeeping missions. Consequently, this study helps to clarify the function of the military and national security worldwide. This truth is very relevant for Sri Lanka as it observed its military engagement in activities that are not only post-war but also essentially post-conflict and entail disaster relief and the construction of significant humanitarian elements of human security.

The Concept of National Security

There is no agreed-upon definition of national security. According to Barry Buzan, maintaining the nation-state's geographical integrity, sovereignty, and sense of national unity are all closely tied to national security (Buzan, 1991). Most nation-states place national security at the top of their list of priorities. In a world of self-help, all states are at least potentially a threat to all other states, hence each state must have the ability to defend itself (Heywood, 2011). This is the basic definition of security. Nabilo defines national security as an intricate interaction between political, economic, military, ideological, legal, social, and other internal and external factors through which individual states attempt to ensure appropriate provisions to maintain their sovereignty, territorial integrity, political independence, the physical survival of their population, and opportunities for balanced and quick social development on an equal footing (Grizold: 1994). So, in a broader sense, national security can be described as the level of security within a nation-state (Bhandari & Sharma, 2020). It comprises ensuring the safety of the nation's borders, safeguarding the property and lives of its citizens, preserving national sovereignty, and carrying out fundamental societal functions like economic, social, political, cultural, and ecological ones (UNDP, 1994). Therefore, whether a country is large or small, its interest in its own national security has grown significantly.

Rajapakshe (2013) stated that "national security is entirely dependent on the achievement of national cohesion, elimination of terrorism, and formulation of effective responses against external attacks" (Rajapakse, 2013:25). According to some scholars, national security is the psychological freedom from anxiety, whether it originates internally or externally (Kegley & Wittkope, 2006). The emergence of a new world order presented another challenge to the notion of security. "All things can be threatened, all risks can be taken, and all sacrifices can be demanded in the name of national security" (Spiegel & Williams, 2004:286). In the past, national security had a strong military emphasis since it was defined in terms of the state and the military, rather than from the viewpoint of the people. Heywood, (2004), asserted that, realistically, the control of military strength is the primary foundation of national security and that its capacity is essential for security. As a result, the military needs to be powerful enough to counter any threats (Heywood, 2011). The national security apparatus has recently begun to pay attention to human security as well, realizing that it needs to be safeguarded through anti-terrorism legislation, greater taxes, and conscription (Chandra & Bhonsle, 2015). According to the Human Development Report (1994:143), "the notion of security should be adjusted from being state-centric to being human-centric". Additionally, it suggests that the goal of humanistic national security should be economic security, food security, health security, environmental security, personal security, community security, and political security.

The Role of the Military in National and Human Security

Sri Lanka, as a South Asian nation, has a history of ethnic conflict that emerged during the 1980s with the LTTE in the Northern and Eastern Provinces due to economic, social, and political disputes among the main ethnic groups. This conflict caused serious threats to the country's stability until the end of 2009. During this three-decade-long conflict, the LTTE used brutal activities to escalate the fear of war for everyone in Sri Lanka (Hoglund & Svensson, 2007). As a result of the conflict, the Sri Lankan military utilised its hard power to destroy the LTTE and then establish normalcy throughout the country (Karunaratne, 2014). Sri Lanka's military had to be responsive to threats posed by the LTTE.

Terrorism has marked tensions everywhere in Sri Lanka since independence, and national security has been jeopardized (Silva, 2007). When it comes to national security and the role of the military, two theories can be applied; realism and liberalism. According to realism, the use of force in states is necessary to ensure security (Mearsheimer, 2001). In addition, realism is often associated with the notion of balance of power, and realism further believes that military strength is essential to face any challenges from adversaries (Walt, 2011). On the other hand, liberalism claims that diplomatic and cooperative approaches are essential tools to achieve national security (Keohane & Nye, 1998). This further justified the idea that international organizations play a key role in maintaining the peace and security of a country.

The Role of the Military in Post-Conflict Sri Lanka

There have been various authors who studied national security and the role of the military yet Williams's book, Security Study: An Introduction, published in 2008, focused on an in-depth analysis of the role of the military. This study focused on matters related to national security and human security perspectives. Thus, this book concerns the main theoretical background of realism and liberalism. Finally, this study has focused on matters related to terrorism and ethnic conflict in the country. In addition, Bishnu et al., (2013) have written a book titled Human Security in Nepal: Concepts, Issues, and Challenges, which provides insider information on matters related to war and vulnerable factors that contribute to human security and national security in the South Asian region. Kristine Hoglund and Camilla Orjuela (2011), Studied sustainable peace and human security in post-conflict Sri Lanka. This study focused on Sri Lanka in the post-war situation in terms of the international actors and how they reacted during the war and in the post-war situation. This study further critically examined some untouched areas such as demilitarization, justice, power sharing, reconstruction, economic development, and reconciliations for sustainable peace.

Research Problem

Currently, every nation-state in the globe treats national security as a key issue. Generally speaking, a nation's military might have a significant impact on its national security. Therefore, the military's duty to protect the nation from dangers and preserve its safety and security from both internal and external attacks is unshakable. After the civil war ended in 2009, national security and the military's position in Sri Lanka became controversial. This study investigates the motivations behind the military's involvement in civil administration, human security, and peacebuilding efforts following the end of the civil war.

Research Objectives

The aim of this research thus is to dissect and reimagine the traditional role of military deployment in the Northern Province of Sri Lanka from a mere counter-insurgency effort to a comprehensive peacebuilding endeavor. Thus, the study aims to explore how the change of role of the military can help in achieving sustainable peace and development in the post-conflict period in the Northern Province of Sri Lanka.

MATERIALS AND METHOD

This research used a qualitative research approach to uncover the dynamics of the military's transition for peace in the Northern Province of Sri Lanka post-counterinsurgency. Specifically, the research mainly employed primary and secondary data while secondary data was collected from books, articles, government and policy documents, and websites that are closely related to national security and peacebuilding. Primary data was collected from the interviews and focus group discussions. This study used random sampling to collect information from 200 participants in the Northern Province aged 35 to 50, including civilians and soldiers. In the Kilinochchi district, two divisional secretariats were looked into; Karachchi and Kandawalai. Semi-structured interviews and focus group discussions were used to acquire qualitative data. The survey questionnaire was circulated to gather information on respondents, such as their wartime experiences and opinions on the present function of the military in Sri Lanka's Northern Province. This study used key variables such as participants' gender, age, ethnicity, education, and occupation; their experience of violence and the time of their displacement and their perception of the security forces on changing the role of the military in national security.

The case studies cover the Northern Province and pay much attention to the impact of the militaries in the reconciliation processes, in engineering the reconstruction of structures, and in boosting human security in post-war development. The data was analyzed through the method of thematic assessment, where all the functions of the military were grouped by the proposed themes, including counterinsurgency, peace and reconciliation, civil-military relations, and human security. From these themes, this study engages in a critical evaluation of the transformation and reorientation of military cooperation from a security-centered concept to that of constructive peacebuilding.

Moreover, the study investigated government policies and strategies in the areas of national security and peacebuilding, comparing them with the frameworks of international peacebuilding. The strengths and weaknesses of the military in peacebuilding were evaluated, with emphasis on the challenges and possibilities of enhancing it. Qualitative data was analyzed by descriptive and interpretive analysis tools. The qualitative data gathered was evaluated utilizing descriptive and interpretive analysis tools, allowing for a thorough examination of patterns, meanings, and insights relevant to the research goals.

RESULTS AND DISCUSSION

The military plays a crucial role in any nation's defense. Protecting and ensuring the safety of the state and its citizens is the major goal of the military establishment. Heywood stated in his book 'Politics' that the military forces "guarantee the security and integrity of the state and are frequently only perceived as being above politics" (Heywood, 2004:243). The primary responsibility of the military, according to Sri Lanka's Ministry of Defense, is to maintain national security; but the military must also be equipped to deal with other threats, such as natural disasters (Rajapakshe, 2013). In addition to providing security, the military has also participated in other

endeavors such as UN peacekeeping, disaster management, the distribution of aid, and rescue missions, among others (Ministry of Defense Report, 2018). The military has been playing a credible role in settling international conflicts on a worldwide scale as well. International peace efforts receive significant funding from the international community. To create, maintain, and strengthen world peace, several UN peace missions are frequently sent out (Ruffa, 2017). In Sri Lanka, the military was actively involved in maintaining national security following the LTTE's rise in the mostly Tamil-populated Northern and Eastern provinces. The majority of them might have come to the conclusion that their goals could only be attained by violent ideologies. Due to this conviction, violent activities increased following the LTTE organization's quick development, the state's military response, and the subsequent repression of the Tamils. In the context of major threats to the state, this conflict between the state forces and the LTTE is viewed as a historical event (Höglund & Svensson, 2007).

For a lengthy period of time, Sri Lanka's economic and political stability was negatively impacted by the long-running internal strife. But the forcible closure of the Maavilaru sluice gate in the Northern Province marked the height of this savagery. The primary act that sparked a comprehensive military response against the insurgents was this one. According to Senaratne (2017), this uprising also continues to undermine all Sri Lankans' human security, particularly their food security. Due to this threat, the government launched a military campaign that resulted in the terrorist organization's defeat (Senaratne, 2017; Rajapakse, 2013). Höglund and Orjuela (2011) claim that because the government imposed a victor's peace on the defeated, winning the war prevented further conflict. In Sri Lanka, the LTTE was routed in May 2009, and the government went on to win the conflict. But achieving peace has remained a far more difficult task (Höglund & Orjuela, 2011).

Civil war repercussions included significant financial, psychological, social, and cultural costs. During the final phase of the conflict, about 80,000 people perished, 6,261 military troops were killed and 29,551 were injured (Karunaratne, 2014 & Rajapakse, 2013). Though it is impossible to determine the exact number of fatalities brought on by the conflict, some believe that some 100,000 civilians, most of whom were Tamils, perished as a result of the conflict (Kilavuz, 2017). In addition, there were several more who required immediate assistance, including thousands of internally displaced persons, migrants, victims, child soldiers, and former LTTE combatants. There were several matters that required rapid action in the immediate wake of the battle. First, there was the issue of the roughly 300,000 internally displaced individuals who had served as the LTTE's human shield in the final stages of the conflict (Rajapakse, 2013), demonstrating the seriousness of the conflict at that point.

The military and the government encountered many difficulties after the conflict. The government successfully identified the key areas and worked with other stakeholders to solve them in order to respond to these concerns. The return and resettlement of displaced people, the rehabilitation of LTTE combatants, including child soldiers, and the reconstruction of destroyed material and human

resources were also advised to be done first (Kulatunga & Lakshman, 2013). All things considered; the government's 5Rs programs that involved military mobilization can be discussed under the several areas listed below.

Reconstruction

After the war was over, the military made contributions that are still evident today in a number of fields. One of the major government efforts that was undertaken with military help was the reconstruction of war-torn districts. Due to the fact that the military, aside from conducting battlefield operations, assisted in rebuilding devastated areas where intense fighting had occurred, "the military has accumulated considerable social trust in the post-war scenario" (Karunaratne, 2014:143). It was predicted that a significant number of individuals were uprooted and forced to flee their homes. The Northern and Eastern Provinces of Sri Lanka "recorded the highest number of migrants, some of whom went abroad" as the country's final phase of the war came to an end (Amnesty International, 2009:32).

Although exact numbers have not been determined, it is thought that between 80,000 and 100,000 Sri Lankan lives were lost during the civil war, with at least half of the dead being civilians. They lost their homes or became refugees, totaling an additional 1.6 million people (Dickwella, Ihjas, & Navarathnam, 2013). A quick recovery project was started by the government to help the 294,000 people who had to leave their homes due to the war (a program like Northern Spring and Deyata Kirula, which aimed to restore the national spring in the devastated areas of the Northern and Eastern Sri Lanka). In addition to improving infrastructure, the military's engagement after 2009 also aimed to improve the socio-economic standing of Sri Lankans residing in the country's North and East (Karunaratne, 2014). The government also had to deal with other difficulties, such as repairing the transportation system, electrical grid, telecommunications system, and irrigation canals. However, the construction of homes in towns and villages posed significant difficulties for the administration, and in this effort the military by itself built close to 6000 homes (Rajapakse, 2014). In accordance with funding provided by the Indian government, 43,000 homes were finished (Indian High Commission in Sri Lanka, 2018). In the most recent conflict between two religious factions in the districts of Aluthgama and Beruwala, the military also assisted in reconstructing homes that were destroyed (Karunaratne, 2014).

This is another basic role that the military plays for the people in the Northern Province. "The military's contribution to the Northern Province's part in reconstruction has improved security there, and it is clear that locals have seen this as a good indication for the region. In this way, the military has been able to guarantee public safety" (Respondent-01). The military's security assistance has also made it possible for other actors, such as NGOs and government agencies, to start their operations throughout the region. According to research on the military's role in reconstruction, one of the locals claimed that this development would not have been possible without the military's support and contribution to enhancing security, and the military has rebuilt roads, wells, bridges, and cleared the area in the demining process (Ministry of Defence & Urban Development, 2012). The military presence in the

Northern Province has also helped to build trust among the people in the province. The military is in fact expected to restore law and order, resume provincial council elections, resume utility services, and restore civil administration for the vulnerable community in the Northern Province (International Monetary Fund, 2009). According to the research, one of the respondents said that military involvement has been very supportive of the civil administration in making the Northern Province a more peaceful, stable, and prosperous region. However, several respondents expressed dissatisfaction with the military's presence in the Northern Province, claiming that the forceful occupation of some territories for security purposes had caused unrest and mistrust among the populace (Respondent-03). The military security strategy had a detrimental effect on the Northern Province's long-term stability and development, as discovered during the research. In conclusion, the military has been crucial in enhancing security in the Northern Province. But there have also been mixed signals for the Northern Province as a result of the military presence.

The military role is debated in this significant area, where the Sri Lankan military has contributed to developing the infrastructure in the Northern Province in the field of the transportation and communication industry. The civil administration had not been in the position of building up such huge development initiatives again. Thus, the military has reconstructed roads, bridges, and other essential development areas to enhance the isolated locations.

According to the report issued by the UN Office for the Coordination of Humanitarian Affairs, 300,000 people were badly displaced in the Northern Province at the final stage of the war (OCHA, 2009). Herein, the military provided shelter for the newly resettled people. Not only the military in Sri Lanka but also UN agencies conducted humanitarian operations to provide quick assistance for the reconstruction of the area (Asian Development Bank, 2007). In addition, the government set up welfare villages throughout the Northern Province, including Vavuniya and Mannar, for displaced people. However, some internal stakeholders claimed that these camps were internment camps (Sri Lanka's Humanitarian Effort, 2011). Although the military supported the people in the Northern Province for infrastructure development, including water, sanitation, and electricity, approximately 350,000 people were not facilitated (UNDP, 2010). The military has helped the people in collaboration with UN-affiliated organizations.

As a result of the military role, some of the people have received employment opportunities for the long term with the collaboration of the military in reconstruction projects in the Northern Province. Some of the former LTTE cardholders received vocational training and entrepreneurial skills from the government of Sri Lanka. According to the respondents to the research, they pointed out how they received working experiences within a short term. The military has provided some business opportunities and short-term working opportunities for road construction projects (Respondent-180). This further ensured that the military must collaborate with the local communities and NGOs to operate well in the interests of the local people.

Resettlement

After the civil war ended, relocation posed yet another difficult task for the Sri Lankan administration. Huge losses in terms of both human life and physical infrastructure had to be accepted by the government. Many people were forced to relocate after the war, either abroad or within their own country. Another problem the government faced was resettling people in their previous communities. In the meantime, aid was offered to those who were living in temporary camps, and they were urged to integrate into society and the economy. The hoped-for revival of the post-war economy, particularly in the North and East, will suffer a catastrophic setback, according to Samarasinghe (2009), who asserted this despite significant donor help for reconstruction. In this context, the government quickly implemented a number of measures to resurrect the productive sectors in this area, including crop agriculture, livestock, fisheries, and tourism (Defence Ministry, 2012). After a few years, a surge in the tourism sector and foreign direct investment resurrected Sri Lanka's economy, which sped up the process of resettling people in the war-affected districts. The military provided aid in putting all of these first support measures into action. Due to aid from the government, once conflict-torn communities are now thriving in economic sectors like agriculture, marketing, commerce, and industry (Rajapakse, 2014).

As a result of the military involvement, reconstruction projects started for development in the Northern Province with the support of military including roads, bridges, and public buildings in the Northern Province. According to the Ministry of Defence in Sri Lanka in 2012, as many as 280,000 displaced people were living in IDPS camps at the end of the war (Ministry of Defence, Sri Lanka, 2012). People in the Northern Province had to face economic challenges due to significant reasons, so the military supported revitalizing the agricultural lands, fisheries, livestock, and tourism in the coastal areas (Ministry of Defence Sri Lanka, 2012). According to the research, respondents said that the government had provided them with financial assistance and loan schemes for poor families to resume their lives and upgrade their small businesses to start their businesses again (Respondent-181). According to the findings, the resettlement became more successful if the government could provide assistance in rehabilitation, including roads, hospitals, and schools, for vulnerable communities due to the war. Then, of course, the government faced several issues pertaining to electricity, providing water, rebuilding public buildings with proper sanitation, and healthcare (Kanpathipillai, 2018). However, there were some demands from ordinary people in this resettlement process. A representative stated; "although we appreciated the military role in the resettlement, it must be transparent and inclusive for everyone that we have control over our own resources" (Respondent-167).

During the civil war, most of the public buildings were heavily damaged by the attacks of the LTTE and government forces. Therefore, after the end of the war in 2009, the government supported the military to repair and reconstruct the public buildings for the community. Security and stability are necessary conditions for community building (Kawachi, 2010). Educational development in the Northern Province is a major challenge for the government

and military. However, the conflict that prevailed over the years had an adverse impact on the people.

According to the research, the shortage of qualified teachers and resources in the Northern Province is the main issue in properly providing Education system to ordinary people. During the research, one of the respondents said that "the military has been particularly effective in promoting education development through infrastructure development" (Respondent-100). In addition, vocational training centres located in the Northern Province were built by the military in the Kilinochchi district to train the former LTTE carders (Karunarathna, 2014). As a result of the government technology program, 2000 LTTE carders and children have been given the chance to go back to school (Rajapaksa, 2013). After the post-war period, the military has been able to provide security for the people in the Northern Province. During those wartimes, the military provided emergency security facilities with centres for insurgency operations and peacekeeping operations in government-led areas. According to the research, it was pointed out that the military has been instrumental in security-related activities and preventive operations in the high war zone in the Northern province. Some previous studies also pointed out that security is an essential prior condition for the development of the Northern province (Kawachi, 2010).

Practically, research has shown that the military has been providing patrols for the school areas and making a big contribution to the development of education in the Northern province. However, some scholars have criticized the fact that military involvement in the education sector in the Northern province can lead to militarization of the detection system further in the other province. The protracted conflict in the Northern province resulted in the deaths of a thousand people in Sri Lanka. When it comes to the negative impacts of the role of the military in resettlement, this is another key concern. There have been several responses issued by local and foreign scholars who allegedly charged the government and military with war-related crimes and malpractices for the militarization of the entire Northern province due to the military-related government programmes. This significant programme had several adverse impacts on the communities in the Northern province. Those are discussed below;

Resettlement and Reintegration

According to reports, the security forces accepted the surrender of roughly a thousand LTTE cadres during the final phase of the conflict. It is crucial to be aware of the government's rehabilitation strategy in this context. According to Rajapakse (2013), one of the most important issues concerning the nearly 12,000 surrendered LTTE cadres and the 4,000 detained cadres is that the government took the audacious step of trying to rehabilitate nearly all of them so they could become productive citizens in the future. According to Karunaratne (2014), "the military's participation undertaken after 2009 encompassed not only infrastructural development but also raising the socioeconomic standing of individuals who were residing in the North and East of Sri Lanka. For ex-LTTE fighters, it includes community services including rehabilitation and job training (Karunaratne, 2014:145). When compared to the post-war initiatives carried out in other parts of the world,

the government's rehabilitation efforts were noteworthy. As evidenced by the fact that 595 of them turned themselves into the government, the United Nations provided specific assistance during this process to aid in the rehabilitation of former child soldiers (Rajapakse, 2013). For those who were interested in reuniting with their families, the government offered classes on spiritual theory, psychiatric counselling, and job training as part of the programme. Due to the aid offered by the government, 169 trainees who had previously served as child soldiers were able to be admitted to the university (Karunaratne, 2014).

The Ministry of Education assisted in providing formal education to other young soldiers. 2000 elementary school pupils received a formal education, while 65 received advanced education, which included a six-month vocational program (Ministry of Defence, 2014). Within a year, the child soldiers were permitted to reunite with their families (Rajapakse, 2013). The military and the government assisted youngsters with basic schooling during the rehabilitation time and donated supplies to help them continue their education. They provided specific programs on leadership training, self-employment, and entrepreneurship, presented seminars for schoolchildren, funded educational trips, and more (Karunaratne, 2014).

The United Nations and numerous other international organizations with ties to the UN generously supported this entire procedure so the kids may get back to their regular lives. On this occasion, the UN gave its contribution to the populace (Goodhand, 1999). Several international NGOs, including the Save the Children Fund (SCF), Oxfam, and the International Committee of the Red Cross (ICRC), started operating in the East in addition to the local NGOs. The majority of these organizations began their operations in the North and East as relief groups, but later on, some, like SCF and Oxfam, switched more and more toward rehabilitation and development initiatives (Goodhand, 1999). For the former soldiers who fought for the LTTE, reintegration programs were also run. Trained suicide bombers have been rehabilitated and released to reintegrate into their communities since the end of the war. 11,935 former LTTE militants had successfully returned to society in this manner by April 2014 (Karunaratne, 2014).

After the end of the war, the military had to join the development sector due to the insufficient workforce in the Northern province. During this entire process, the military has been involved in various rehabilitation programmes. This has not been done only by the government; therefore, the military has also taken support from the government to initiate some of the rehabilitation programmes. One of the respondents said that "the military provided people like us with vocational training programs and helped us start new businesses and programs to resume our lives" (Respondent-12).

As a result of the war, there was no room for the local population in the Northern Province to resume their lives. As a result, people in the Northern Province experienced significant impacts on their daily lives and economies. According to the respondents, "firstly, I received proper vocational training, then I was able to join the civil defence force, where I was able to secure a position" (Respondent-22). According to a study by Peris in 2017, the vast majority

of the former LTTE card holders were reintegrated successfully. However, some of the respondents spoke negatively about the role of the military, saying, "when I first came to the rehabilitation center in the Kilinochchi, it was very hard to live. I felt that there was anoxia, trauma, and emotional pain" (Respondent-74).

Reconciliation

The military and the administration are now playing their final and most crucial role in the fight. Every civil war presents the task of bringing the entire country together once it has ended. Since Sri Lanka is not an exception to this process, it has the same issue, which is challenging to resolve. In order to fulfil their obligations effectively, succeeding governments have made every effort to bring the communities that had been at odds back together. In this regard, the government first determined the top priorities that needed to be looked at in order to help the war-affected population and put in place the right initiatives to restore their standard of living. Secondly, the administration has been making an effort to carry out programs for post-war peacebuilding.

The administration has gradually come to the realization that peace cannot be established without reconciliation taking place between the various communities while it is engaged in this entire process. Reconciliation can be viewed as the establishment of a peaceful relationship in which the opposing communities are at least not causing harm to one another and can be trusted not to do so in the future; as a result, the possibility of retaliation is eliminated (Galtung & Webeland, 2007). After the civil war was over, the government organized a number of programs with the aid of the military to promote reconciliation. As the military was no longer actively engaged in combat, the government turned its attention to the requirements of the post-war period. As such, the military was urged to turn its attention towards areas like rehabilitation, reconciliation and nation-building (Karunaratne, 2014). However, some Western nations have criticized the current reconciliation process because it did not follow their advice. "Western nations are in touch with the Sri Lankan peace process and have recommended to the government that international guidelines should be followed in the reconciliation process" (Samarasinghe, 2009:56). Similarly, the government's handling of other matters, including human rights, devolution of power, constitutional amendments, political reform, land distribution, and civil administration have also been highly criticized by European countries.

Under the President Maythreepala Sirisena's direct supervision, the government set up the Ministry of National Integration and Reconciliation. This Ministry has significantly aided in the process of recreating the nation. As a responsible ministry, it has put in place a number of initiatives, such as the Reconciliation Focused Youth Program, the Reconciliation Focused Economic Empowerment Program, the Integration Friendly Schools Program, the Integration and Reconciliation Friendly Sunday Religious Schools Program, the Integration Friendly Media Program (Peace Journalism), and the Reconciliation Friendly Schools Program (Ministry of National Integration and Reconciliation, Performance Report, 2017). Additionally, in an effort to foster reconciliation, the government developed projects in the North and East to support the economy, political plurality, and social integrity in order to provide aid and foster a positive atmosphere for the war-affected population. The role of the military has not yet been diminished, even with the end of terrorism. For instance, retaining a national army has been justified by the military's peacetime roles during situations like a national emergency, natural disasters, or other security-related challenges. Therefore, it is crucial to fully comprehend that the military not only helps to defend the nation during times of danger but also plays a role in nation-building efforts during times of peace.

CONCLUSION

In the context of global terrorism and the observed and contemplated wars, state security is increasingly viewed as the priority of governments all over the world. Syrian, Libyan, Iraqi and Yemeni instabilities remain extremely high and cause states to enhance their security systems and acquire new powerful weaponry and strategic defence plans. The chosen country Sri Lanka, an island nation that triumphantly concluded the nearly three decades of prolonged terrorist confrontation in 2009, can be described as a country that will experience an important shift in the role of its military from counter-insurgency to more of a peace-building force. The Sri Lankan military demonstrated its assertiveness leading to the ending of the LTTE insurgency to demonstrate its efficiency in protecting the nation from internal threats.

However, the change of situation from conflict to peace has not been easy to come by or permanent in most societies. In the context of the post-armed conflict reconstruction, it becomes clear that the situation in the Northern Province of Sri Lanka can, under no circumstances, be overcome by force; it would rather entail a complex peacebuilding process that would embrace reconciliation, together with development and social inclusion processes. Since the defeat of the LTTE, the Sri Lankan government, with the backing of the military, has launched various processes that seek to consolidate peace, rehabilitation and reconciliation. The change of role of the military from counterinsurgency to conflict reconstruction along with rehabilitation has been very useful in meeting the needs of the new environment.

Currently, the military plays both security and development operational roles especially in the Northern Province of Sri Lanka for social rebuilding and restoration. Initiatives made by the military after end of the war in 2009 in the construction of schools and hospitals, healthcare and education have particularly been central in rebuilding war zones into productive states. This transformation of the involvement of militaries can be said to embrace the essence of the complex nature of security and the need to move from mere defence-oriented roles to a complex concept and human security and sustainable peace. The Easter Sunday attacks in the year 2019 serve as a fact that the world still faces extremism and terrorism and that a military force needs to be responsive and alert. In this regard, it can be concluded that as the phenomenon of terrorism goes international, Sri Lanka cannot afford to be passive when it comes to enhancing its security structures while fostering peace. Indeed, the military has the potential to balance these two responsibilities of security and post-war rebuilding in order to maintain both short-term and long-term stability in the country.

Therefore, this paper argues that it is about time the military engagement in post-war Sri Lanka replaced a counterinsurgency approach with an integrated peace mechanism. To avoid instability, military roles ranging from security, human security and development roles in the Northern Province are paramount in the process of establishing peace. This integrated approach makes sure that the military is still the key factor in the security of a country and also has the responsibility of a general in the development and rebuilding process of a nation. The Sri Lankan case shows that militaries in countries coming from a conflict should not only be ready to defend the newly built peace but also be engaged in the processes of rebuilding societies.

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Socio-Economic Importance of Inland Fishery and Adaptive Strategies of Inland Fishermen at Udawalawe Reservoir, Sri Lanka

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Abstract

The inland fishery sector plays a pivotal role in ensuring food security and developing rural livelihoods worldwide. This study aimed to identify the factors affecting the socio-economic importance of the fishermen in the Udawalawe Reservoir area by addressing weaknesses and threats associated with the inland fishery sector. According to the database of the National Aquaculture Development Authority (NAQDA), 250 fishermen were registered with the Fishermen's Society of the Udawalawe Reservoir by the year 2022. From this population, 45 fishermen were selected using a simple random sampling technique. Primary data were collected through a self-administered questionnaire survey and three focus group discussions conducted from January to March 2022. Data analysis was carried out using descriptive statistics, SWOT analysis, and thematic analysis. The findings of the fishermen's household survey revealed that enhancing employment opportunities is considered the most important factor for improving the economic conditions of the fishermen in this area while strengthening the social network among fishermen is seen as a key aspect for improving their social conditions. The SWOT analysis identified several weaknesses, including inadequate production of high-quality fish seed for stocking, a lack of value-added products from inland fish, and limited sources of capital for research and development in inland fish farming. The identified threats include chemical pollution in water that affects fish quality, various types of predators, the dominance of marine fishery in the market, and the absence of national standards aimed at developing inland fish for both local and export markets. Thus, the proposed framework based on a systematic Plan-Do-Study-Act approach, aims to identify objectives, measure progress, and implement changes through proper stakeholder engagement, resource allocation, and an effective monitoring and evaluation (M&E) system. Thus, this framework is suggested as an adaptive strategy to enhance the socio-economic development of fishermen in this area while minimising the identified weaknesses and threats.

Keywords: Adaptive Strategies, Fishermen, Inland Fishery, Socio-economic Importance, Udawalawe Reservoir in Sri Lanka

INTRODUCTION

The inland fishery sector plays a significant role in the aspect of socio-economic importance of people in many developing countries (Somashekar & Majagi, 2020). Research findings indicate that inland fisheries contribute substantially to the nutritional value of the population and the growth of a country's national economy (Smith & Bennett, 2019). Moreover, inland fisheries and aquaculture have multifaceted significance in both social and economic aspects within societies (Smith & Bennett, 2019).

In Sri Lanka, the inland fishery sector accounts for 0.9% of the national economy (Department of Fisheries and Aquatic Resources, 2020). The country earns 318 million US dollars from exporting fish and fishery-based products, and the annual total production from the inland fishery sector is 90,340 metric tons (Department of Fisheries and Aquatic Resources, 2020). The inland fishery sector also plays a

crucial role in social development by generating employment opportunities and providing a source of income for many people. In particular, it supports food security and improves the well-being of fishermen similar to the marine fishery sector of the country. The inland fishery sector enhances the nutritional status of rural communities, which is vital for human health, thereby empowering and improving rural livelihoods both economically and socially (Murray & Little, 2022; Sanon et al., 2021). However, in some developing countries, the socio-economic contributions of the inland fishery sector have not yet been fully recognised or emphasised (Murray & Little, 2022; Sanon et al., 2021).

Moreover, inland fisheries are vital for socio-economic development and food security in many regions, providing a key source of protein and essential nutrients, particularly in

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rural and less developed areas where alternative food sources may be scarce (Food and Agriculture Organization [FAO], 2022). Studies show that inland fisheries offer direct employment opportunities through fishing and aquaculture and indirectly related sectors like processing and distribution (National Aquatic Resources Research and Development Agency [NARA], 2022; Dugan et al., 2010). Furthermore, these fisheries stimulate local economies by generating trade and economic activities that benefit rural communities and contribute to poverty reduction (World Bank, 2018; Béné et al., 2009). Understanding the socio-economic impacts of inland fisheries is crucial for developing strategies that promote their sustainability and improve the livelihoods of fishermen.

Globally, inland fisheries produced about 51.3 million tons of aquatic animals in 2018, comprising 63.3% of global food fish production. While capture fisheries accounted for 12% of this production, culture fisheries contributed 51.3% (FAO, 2020). Inland fishing plays a significant role in the economies of countries like China, Myanmar, Bangladesh, Indonesia, Tanzania, Philippines, Thailand, Vietnam, India, Egypt, and Nigeria, with Asia accounting for 66% of global inland fish production (Pearson & Duggan, 2018). Women also play a critical role in this sector, contributing 14% of labour globally, with a higher share in culture fisheries (19%) compared to capture fisheries (12%). Notably, 85% of women involved in inland fishing are in Asia (Thomas et al., 2021).

Lynch et al. (2016) highlight that inland fisheries contribute to individual well-being through food and economic security and empowerment. They also provide social benefits, including cultural services, recreation, health, knowledge transfer, and capacity building. Inland fisheries are crucial for food and nutrition security in many developing countries, particularly in rural communities where they are often the primary source of animal protein. They generate income and job opportunities throughout the value chain, including fishing, processing, and distribution. Inland fisheries also present opportunities to empower women through their involvement in fishing and post-harvest activities.

In Sri Lanka, inland fisheries meet 50% of the nation's animal protein needs and support around one million fishermen, workers, and their families. Both men and women are involved in the sector, with women accounting for 10% of post-harvest activities related to inland fisheries (World Bank, 2022). Sri Lanka has approximately 12,000 reservoirs, categorised as perennial and seasonal based on their hydrological regimes, covering around 260,000 hectares of the country (Chandrasoma & Pushpalatha, 2018).

The inland fishery sector significantly contributes to Sri Lanka's economy, accounting for 9.9% of the Gross Domestic Product (GDP) (Department of Fisheries and Aquatic Resources, 2020). There is considerable potential to increase this contribution further by enhancing fish production, promoting value addition, and improving access to export markets. However, Sri Lanka has not fully capitalised on the potential for value addition in inland fish products due to underperformance in the sector (Athukorala et al., 2017; United States of Agency for International Development [USAID], 2009). One area that exemplifies the growth potential is the Udawalawe Reservoir, located in the Ratnapura District of Sri Lanka. This reservoir serves as a successful natural breeding and spawning ground for various species, including Indian carp varieties (*Catla catla*), Rohu (*Labeo rohita*), Mrigal (*Cirrhinus mrigala*), Gift Tilapia, and freshwater prawns, all of which are successfully cultivated in Sri Lanka (Deepananda et al., 2014). Due to the favourable climatic conditions in the area, the reservoir is particularly known for its substantial production of Catla and Tilapia species, outperforming other inland fish-cultivating reservoirs in the country (Rathnachandra & Malkanthi, 2023).

Literature review evidence that limited research has been conducted regarding the study of the socio-economic importance of inland fisheries, factors affecting the socio-economic well-being of fishermen and challenges faced by them, while most of the studies have focused on the technological aspects of inland fisheries (Murray & Little, 2022; Deepananda et al., 2014) and the development of culture-based fisheries (Amarasinghe et al., 2022; Chandrasoma & Pushpalatha, 2018; Amarasinghe, 2013). Thus, this study aimed to address these gaps by investigating the socio-economic factors influencing the improvement of inland fishermen and also the weaknesses and threats facing the sector, particularly in the Udawalawe Reservoir.

The identified research gaps signify the need to address the socio-economic conditions of fishermen. Thus, this research aimed to analyse the factors influencing the socio-economic development of fishermen in this area from their perspective. It also explored the internal and external environmental factors affecting the Udawalawe Reservoir area to enhance inland fish production. The study provides suggestions to address weaknesses and threats that are crucial for formulating policy implications to boost inland fish production in the future.

This paper examines the socio-economic profile of fishermen and the significance of inland fisheries from the perspective of fishermen while proposing a framework to enhance the socio-economic impact of inland fisheries in line with the study's research objectives. The literature review outlines the theoretical framework and identifies conceptual, empirical, methodological, and theoretical gaps concerning the socio-economic importance of inland fisheries. The research methodology section provides a brief overview of the operationalisation of variables, the sampling procedure, data collection techniques, and data analysis methods employed in the study. The results and discussion section presents the findings derived from the analysis of the data collected from the study area, while the conclusion section summarises the conclusions drawn from these findings.

LITERATURE REVIEW

The socio-economic importance of inland fisheries extends beyond mere economic contributions; it encompasses cultural, nutritional, and social dimensions as well (Béné & Friend, 2021). In existing literature, the term socio-economic importance is defined as follows;

- Socio-economic importance refers to the significance of an activity or sector in contributing to the economic welfare and social structures of a community, encompassing both economic

contributions and social impacts (Béné et al., 2016).

- According to the study of Ahmed & Hossain (2020), The socio-economic importance of a sector includes its role in enhancing living standards, food security, and sustainable development, especially in rural areas.
- Socio-economic importance can be assessed by examining its impacts on employment, income levels, community health, and cultural identity, particularly in resource-dependent communities (Dey et al., 2021).

According to the definitions of socio-economic importance, some conceptual gaps were identified. These definitions recognise both economic contributions and social impacts, but there is a lack of a framework that effectively integrates these dimensions (Kearney, 2018). Also, the socio-economic importance of a sector may vary significantly across different regions or communities. Existing studies do not fully account for local cultural, environmental, and economic contexts, which could affect the generalisability of the findings (Wu & Tham, 2023). Moreover, most assessments focus on current impacts, but there is a need for longitudinal studies that examine the long-term socio-economic effects of sectors on communities, particularly in changing environments (Baker & Johnson, 2016). In addition, the role of policy and governance in shaping the socio-economic importance of a sector is often underexplored (Akande, 2022). Also, socio-economic importance could change over time due to economic shifts, technological advancements, or environmental changes (Calimanu, 2023).

Understanding the socio-economic dynamics of inland fisheries can be enhanced through various theoretical frameworks. The Livelihoods Framework, for instance, emphasises the multiple assets that contribute to the livelihoods of fishermen, including natural, human, and social capital (Béné & Friend, 2021). From the existing theoretical frameworks, Common Pool Resource theory (CPR) provides a valuable framework for exploring the socio-economic importance and adaptive strategies of inland fishermen. It facilitates a deep understanding of resource management dynamics, community governance, and the interplay between environmental sustainability and economic livelihoods, ultimately contributing to more effective strategies for supporting these communities (Hoang et al., 2021) because CPR theory focuses on the management of resources that are shared among multiple users, such as inland fisheries (Ma'ruf et al., 2023). Also, this theory provides a framework to analyse challenges faced by inland fishermen, such as overfishing and resource depletion. It helps to explore the socio-economic implications of these challenges and the adaptive strategies employed to mitigate negative impacts on fishermen's livelihoods (Sanon et al., 2021). Apart from that, CPR theory emphasises the role of local institutions and community governance in resource management (Zhang et al., 2024). In particular, this can be used to examine how fishermen adapt their practices and strategies in response to external pressures, including climate change and market fluctuations. It provides a lens to analyse the effectiveness of these adaptations in sustaining both their livelihoods and the resource base (George, 2019). Moreover, CPR theory

often addresses issues of equity and social capital, which are crucial in understanding the socio-economic importance of inland fisheries (Sanon et al., 2021). Thus, the CPR theory, emerged in the 1980s to examine the institutional, social, and physical factors that promote cooperation among local resource users. CPR theory is used to describe social-ecological relationships governing changes in inland fisheries (Basurto, 2015; Partelow et al., 2018). It emphasises the need to study socio-economic conditions, challenges, and opportunities in inland fisheries to fishermen, boost fish production and enhance income as a common-pool resource. CPR theory provides a comprehensive framework for understanding the challenges and solutions associated with managing resources that are shared among multiple users. By exploring how different governance structures and collective actions help to manage these resources sustainably, CPR theory offers valuable insights into balancing the use, conservation, and equitable distribution of benefits (Tucker et al., 2023).

Many studies focus on either socio-economic or ecological aspects, but there is a lack of integrated frameworks that combine these perspectives (Andersson et al., 2024). While there is growing literature on climate change impacts, specific studies on how climate change affects the socio-economic status of inland fishery communities remain limited (Ramírez et al., 2018). Although some studies address women's roles in fisheries, there is a need for a more nuanced analysis of gender dynamics, including decision-making power, access to resources, and participation in value chains (International Labour Organization [ILO], 2022). In addition, there is a lack of comprehensive studies on the economic diversification strategies employed by inland fishery communities. Understanding how these strategies contribute to resilience and sustainability is crucial (Pratiwy et al., 2024). Moreover, the impact of local and national policies on the socio-economic development of inland fishery communities is not well-documented (Funge-Smith & Bennett, 2019). Studies on socio-economic vulnerability factors including poverty, education, and infrastructure are limited in the context of inland fisheries. Understanding these vulnerabilities is essential for targeted interventions (Sanon et al., 2021).

There is a lack of long-term studies that track the socio-economic impacts of inland fisheries over time (Béné & Friend, 2021). Many studies overlook the influence of local cultural practices and beliefs on the socio-economic dynamics of fishing communities. Exploring how cultural factors shape fishing practices, resource management, and community resilience could enhance existing knowledge (Gustavsson et al., 2017). Research often focuses on male fishermen, neglecting the roles and contributions of women in inland fisheries. Empirical studies that explore gender-specific impacts, access to resources, and decision-making processes would address this gap (Bennett & Dearden, 2018). While there is growing awareness of the effects of climate change, empirical evidence specifically linking climate variability to the socio-economic conditions of inland fishing communities is still limited, and studies for adaptive strategies are few (Liu & Li, 2022). A few studies examine how inland fishing communities diversify their income sources and the impact of this diversification on overall socio-economic stability. Studies in this area support

to develop more resilient community strategies (Sène-Harper et al., 2020). There is a need for empirical research on the effectiveness of local governance structures and policies in managing inland fisheries (Berkes & Folke, 2019). Limited research has been conducted on the market dynamics and value chains specific to inland fisheries (Harrison & Ramachandran, 2021). Investigating the relationship between inland fisheries and community health, particularly in terms of nutrition and food security, remains underexplored. Studies that focus on dietary contributions from fish could inform public health initiatives (Sharma & Sharma, 2020).

Many studies rely on qualitative methods or limited quantitative data. There is a need for mixed-method approach that combine both qualitative and quantitative data to provide a more comprehensive understanding (Free et al., 2015). Moreover, there are no longitudinal studies that track changes in socio-economic conditions over time, related to inland fisheries. Such studies lead to identifying trends and causal relationships more effectively. In addition, there is a lack of standardised tools to assess the socio-economic impacts of inland fisheries comprehensively. Developing metrics that capture social well-being, economic security, and ecological sustainability is essential (Sanon et al., 2021). In particular, limited incorporation of technology, such as remote sensing and Geographic Information Systems (GIS), can hinder spatial analysis of socio-economic conditions and resource distribution in inland fisheries (Falconer et al., 2020). There are few comparative studies that analyse different regions or countries. Such studies support to identify the best practices and lessons learned that could be applicable in other contexts (Sanon et al., 2021). Therefore, there is a gap in studying the socio-economic importance and adaptive strategies from inland fishermen's perspective, and this study can fill the knowledge gap and provide insights for future research.

MATERIALS AND METHOD

Udawalawe reservoir is located in Udawalawe National Park in Ratnapura district in Sri Lanka. The extent of the reservoir is 3,399 ha. Inland fishing and the production of fish fingerlings are its two prominent features. Also, it acts as a highly productive natural breeding and spawning ground for Indian carp varieties; Catla, Rohu and Mrigal, Tilapia varieties (Gift Tilapia) and freshwater prawn species that are cultivated in Sri Lanka (NAQDA, 2022; Deepananda et al., 2014).

While descriptive analyses were utilised to identify the respondents' socio-economic profile and socio-economic importance of inland fisheries, a SWOT analysis was conducted to find out the present status of the inland fishery as well as to identify the weaknesses and threats faced by the fishermen when doing their fishing practices because SWOT analysis allows for a comprehensive evaluation of internal and external factors affecting inland fishermen. By identifying strengths and weaknesses, researchers can gain insights into the socio-economic conditions within the communities. Opportunities and threats provide context for external pressures, such as market dynamics and environmental changes. Also, SWOT analysis can directly inform the adaptive strategies of inland fishermen. By mapping out existing strengths (e.g., traditional knowledge community cohesion) and weaknesses (e.g., limited access

to markets), researchers can suggest targeted interventions to enhance resilience. In addition, a framework was developed to improve the socio-economic importance of inland fishery by outlining the findings of the SWOT analysis. Also, the study was cross-sectional due to the time limitations for utilising the longitudinal pattern.

A pilot study was conducted to identify the suitability of the questionnaire. After that, a self-administered questionnaire survey was conducted from January to March 2022 as the method of primary data collection.

According to the 2022 statistics of the National Aquaculture Development Authority (NAQDA) of Sri Lanka, 250 fishermen were registered and actively engaged in fishing activities in this reservoir. From this population, a sample of 45 fishermen was selected for the study using the simple random sampling method. The decision to sample 45 fishermen from a population of 250 is justified as a balanced approach to obtaining reliable and meaningful results, considering factors such as statistical power, resource constraints, representativeness, literature benchmarks, and practical aspects of data collection. Three focus group discussions were also conducted with 15 participants per session to facilitate discussion while ensuring that everyone has the opportunity to contribute. Because focus group discussions bring together fishermen's backgrounds to gather a wide range of insights and experiences related to inland fisheries, it allows for nuanced discussions that can reveal underlying beliefs, values, and social dynamics affecting the inland fishery sector, which quantitative data alone might fail to reveal. Furthermore, it provides insights for more effective policy-making and resource management by highlighting local knowledge and priorities. Hence, focus group discussion themes identified form the existing literature findings were; favourable climatic conditions and availability of geographical features, types of resources that are currently available (Lammers et al., 2020), contribution to employment and income, trends in local and export markets indicating growing demand for inland fish, protection of biodiversity (Suuronen & Bartley, 2014), community benefits, source of nutrition supplement, fish breeding centres' contribution to enhancing fish farming practices (Özen, 2019), support required from community and government levels, availability of value-added fish products (Pedroza-Gutiérrez & López-Rocha, 2016), new technology adoption (Dube & Mabika, 2022), quality fish seed, natural disasters affecting fish farming, disease identification and treatment in fish populations (Islam et al., 2023), the role of women in fish processing (Muthmainnah and Rais, 2021), and predators' role in fish stocks (Moosmann et al., 2024). Thematic analysis was utilised for analysing the data gathered from focus group discussions. According to that, a mixed-method research design was selected for the study. Thus, those findings were used to develop a framework to improve the socio-economic status of fishermen in this area.

Figure 1: Conceptual framework of the study
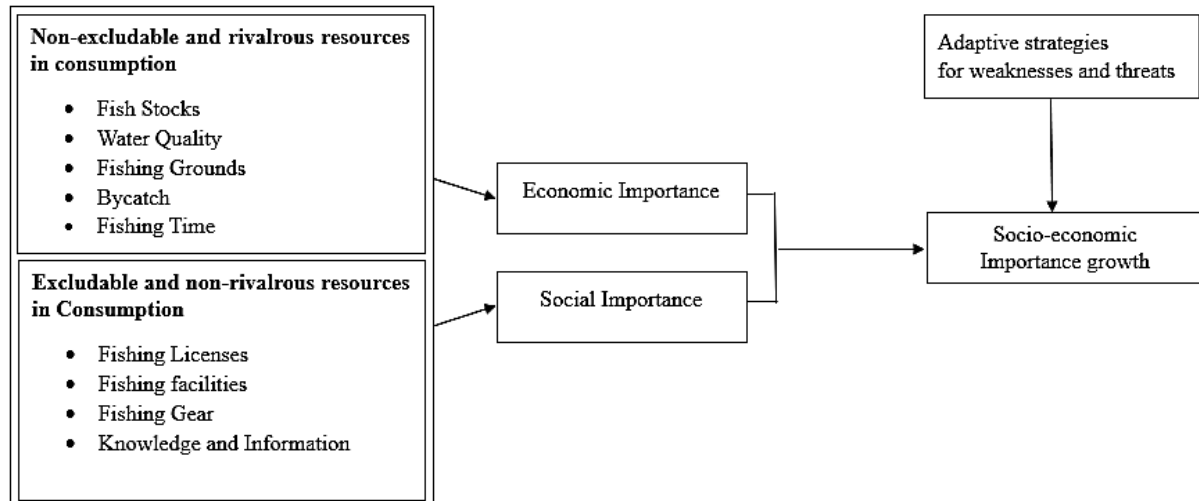
Source: Researcher's creation, 2024

According to the study by Lynch et al., (2016), the socio-economic importance of inland fishery was assessed from both economic as well as societal perspectives separately as individual and social situations after making necessary modifications according to the study area. The economic importance illustrating dimensions used here were; enhancing employment opportunities, expanding the production capability of inland fish and its based products, ability to use as a nutritive source of food in fishermen's households, acting as a protein supplement, possibility for savings, access to financial sources (loan/credit), product diversification, and formation of value-added products. The social importance elaborating dimensions used were; empowerment of fishermen's livelihoods, enhancement of social networking among fishermen, increasing of awareness regarding inland fishing activities, and enhancement of the living standards of the fishermen.

Thus, the SWOT analysis is a structured planning method that can be used to identify and assess both internal and external factors that are favourable or unfavourable towards achieving the development of the target activity or the place while performing at the initial stage of planning. With the SWOT analysis, strengths were recognised as the helpful factors of internal development and weaknesses as the unfavourable factors for the improvement of the socio-economic importance of inland fishery related to this area. Moreover, opportunities are the external supportive factors and threats are the external harmful factors for the development of inland fishery in this area. The SWOT analysis was conducted to find out the weaknesses and threats encountered when fishing in this reservoir and to explore the solutions for them in order to develop fish production. The findings of the SWOT analysis were validated using the results of the focus group discussions. In addition, the reliability and validity of the survey data were evaluated to ensure that the research findings were accurate, credible, and applicable.

RESULTS AND DISCUSSION

The Socio-Economic Profile of the Fishermen

The main socio-economic factors of the fishermen were studied and the findings are presented in Table 1. According to the results, 73.3% of the fishermen belonged to the age category of 40 to 59 years, indicating that the majority were in their economically active stage. Additionally, 71.1% of the respondents were married, suggesting that most had family support for their fishing activities. Furthermore, 53.3% of the fishermen had received formal education up to the Junior Secondary level or GCE Ordinary level. This represents a significant level of educational achievement, enabling the majority to understand new knowledge, techniques, and adapt the latest technologies to enhance their inland fishery production, access financial facilities, and procure the necessary inputs for their fishing activities.

Most of the fishermen had a family size of 4 to 5 members, which further suggests the potential use of additional family labour in fishing, post-harvest, and processing activities. Moreover, they had an average of 7 years of experience in fish farming, indicating substantial knowledge and expertise in inland fishery activities. While 82.2% of the fishermen earned a monthly income between LKR 20,001 and 40,000, 13.3% earned less than LKR 20,000. Therefore, the majority of the fishermen earned a significant monthly income from fishing activities in the reservoir.

Table 1: Socio-economic profile of fishermen of the study area (n=45)

Factor	Category	Frequency	Percentage (%)
Age	20-39 Years	08	17.8
	40-59 Years	33	73.3
	More than 60 Years	04	08.9
Marital status	Single	10	22.2
	Married	32	71.1
	Widowed	03	06.7
Educational level	No Primary education	02	04.4
	Primary education	11	24.4
	Junior secondary education (O/L)	24	53.3
	Senior secondary education (A/L)	08	17.8
Monthly income (LKR)	Less than 20,000	06	13.3
	20,001 – 40,000	37	82.2
	40,001 – 60,000	02	04.4
Number of family members	<4	09	20.0
	4 - 5	28	62.2
	>5	08	17.8
Farming experience (Years)	01-04	11	24.4
	05-09	32	71.1
	10-14	02	04.4

Source: Field survey January to March, 2022

The Socio-Economic Importance of Inland Fishery from Fishermen's Perspective

Before conducting the study, the reliability of the survey data was evaluated using internal consistency measures. Cronbach's alpha for economic importance items was 0.87, indicating high reliability, while the social importance items had a considerable value of Cronbach's alpha of 0.79.

From the analysis, the main socio-economic aspects were studied and the findings are shown in Table 2. As per the results, seven factors were used to assess the economic importance of inland fishing for fishermen. These factors are: "Enhancing employment opportunities" (97.8%), "Expanding the production capability of inland fish and fish-based products" (95.6%), "Ability to use as a nutritive source of food in fishermen's households" (93.3%), "Acting as a protein supplement" (88.9%), "Possibility of saving money" (80%), "Access to financial sources (loan/credit)" (71.1%), and "Product diversification and development of value-added products" (84.4%). Thus, the majority of fishermen reported that enhancing employment opportunities, expanding the production capacity of inland fish and fish-based products, and utilising them as a nutritive source of food in their households were the most significant

dimensions that highlight the economic importance of inland fisheries from their perspective.

Regarding social importance, four factors were used to assess the social importance of inland fisheries. These factors include "Empowerment of fishermen's livelihoods" (73.3%)," Enhancement of social networks among fishermen" (80.0%), "Increased awareness of inland fishing activities" (71.1%), and "Improvement in the living standards of fishermen" (62.2%). According to the findings, enhancing social networks among fishermen was identified as the most important factor that demonstrates the social importance of inland fisheries. Consequently, inland fisheries have the potential to play a crucial role in the socio-economic development of fishermen in the study area. Several research findings have also evidenced that inland fisheries contribute to the social and economic development of rural livelihoods in many countries around the world (Sanon et al., 2021; Smith & Bennett, 2019; Paul & Chakraborty, 2016).

Table 2: Socio-economic importance of inland fishery in fishermen perspective (n=45)

Economic importance	Frequency	Percentage (%)
Enhancing employment opportunities	44	97.8
Expanding the production capability of inland fishing and its based products	43	95.6
Ability to use as a nutritive source of food in fishermen's households	42	93.3
Acting as a protein supplement	40	88.9
Possibility to do some savings	36	80.0
Access to financial sources (loan/ credit)	32	71.1
Product diversification and formation of value-added products	38	84.4
Social importance		
Empowerment of fishermen's livelihood	33	73.3
Enhancing the social network among fishermen	36	80.0
Increasing awareness of inland fishing activities	32	71.1
Enhancing the living standards of the fishermen	28	62.2

Source: Field survey January to March, 2022

SWOT Analysis of Inland Fishery in Udawalawe Reservoir

A SWOT analysis was conducted and the results are presented in Table 3.

Table 3: SWOT analysis of the Inland fishery sector in Udawalawe reservoir

Strengths	Weaknesses
Favorable climatic conditions in most of the time of the year.	Lack of bottom-level support for the development of inland fish farming.
Excellent geographical condition.	Limited sources of capital to enhance research and development in inland fish farming.
Resource availability for expanding production.	Lack of adequate quality fish seed production for stocking.
Employment generation.	Poor level of technology transmission.
Excellent source of protein supplements to avoid nutrition deficiencies of the people.	Lack of value-added products of inland fish.
Presence of fish breeding centers for Tilapia varieties, Carp varieties, and freshwater prawn species	Fishermen have a lower level of financial accessibility to purchase required equipment for farming.
A source of income for enhancing the living status of fishermen	Natural disasters (flooding and droughts)
Opportunities	**Threats**
Increasing demand for inland fish species in the local market as well as in the export market.	The national standards are not directed to develop both the local and export markets.
Increasing breeding of indigenous fish varieties.	Chemical pollution and quality control of fish.
Policy makers implement updated policies for the development of inland fish production in Udawalawe reservoir.	Extension service is not directed towards the harmfulness of the usage of dangerous fishing equipment.
Protect biodiversity and improve the natural ecosystem of the reservoir.	Poor awareness of consumers on inland fish.
Frequent supervision of disease identification and application treatments.	Various types of predators.
Empowerment of livelihoods of women (due to higher participation of women in fish processing).	Higher market share of marine fishery.

Source: Field survey January to March, 2022

After conducting the SWOT analysis (Table 3), the strengths, weaknesses, opportunities, and threats related to the inland fishery in this reservoir were identified. "As the strengths; fishermen highlighted several strengths of inland fish farming, including favourable climatic conditions." Most of the fishermen stated, "the climate conditions here support fish farming almost year-round." Additionally, geographical advantages were noted, with a community leader mentioning "we have easy access to both water and land

resources too." It evidences that Udawalawe reservoir consists favourable year-round climatic conditions and that necessary resources are available." One of the weaknesses is the lack of bottom-level support to enhance inland fish production, as the involvement of fishermen in inland fishery development is minimal, with the government providing only limited assistance. "The focus group discussions revealed that fishermen feel disconnected from the development initiatives, with minimal involvement in decision-making processes. This lack of engagement undermines local ownership and investment in inland fishery development." Furthermore, inland fish species have lower demand in some areas of the local market due to consumers' preference for marine fish species. Sri Lanka has limited capacity to penetrate the export market, as evidenced by the study of Murray & Little (2022). Additionally, the government and other supporting organisations provide a limited number of financial resources to expand research and development activities in inland fish farming. Moreover, "fishermen in the two focus group discussions expressed frustration with the limited financial and technical support from the government. This corroborates the notion that government initiatives are not sufficiently addressing the needs of local fishermen." Furthermore, "the chairman of the fishermen's society highlighted a significant consumer preference for marine fish over inland species, impacting market viability. This consumer behaviour poses a challenge for local producers by preventing a sustainable market for inland fish."

Meanwhile, in this reservoir, the inland fish seed requirements are met by Udawalawe Carp AQDC and Udawalawe Tilapia AQDC. However, these Aquaculture Development Centres (AQDCs) have been unable to meet the total demand for fish seed production due to limited rearing facilities such as brood stock ponds, rearing ponds, and nursery ponds. Despite having up-to-date knowledge and technologies, these AQDCs have been in effective in transmitting these technologies to fishermen. Moreover, fishermen face financial challenges in purchasing the necessary farming equipment due to issues like the inability to provide collateral, lower education levels, and high interest rates on bank loans. Similar findings were reported by Murray and Little (2022) and Pomeroy et al. (2020) in their research studies. In addition, "twenty-nine fishermen reported that there was a consensus that inadequate financial resources hinder research and innovation in inland fish farming, limiting advancements in practices that could enhance production too. Also, "many fishermen reported challenges in securing loans due to high-interest rates and lack of collateral, which inhibits their ability to invest in necessary equipment." Thus, financial challenges limited their purchasing ability of farming equipment and introduced new fish species to the industry by the aqua-culturist of AQDCs.

"In particular, 80% of fishermen in the focus group discussions, revealed that natural disasters, such as floods and droughts, pose significant threats to fish production, leading to inconsistent yields and economic instability for them." Thus, natural disasters, such as floods destroying fish seeds, cold weather reducing fish seed production, and drought conditions leading to fish mortality, also hinder fish production. These factors cause fluctuations in inland fish production in the reservoir. Consequently, fishermen in the

Udawalawe reservoir face numerous challenges in expanding inland fish production.

However, there are potential opportunities for expanding inland fish production due to a certain demand in both local and export markets (Sri Lanka Export Development Board, 2023). This could generate considerable economic benefits, boosting the local economy. Moreover, "most of the fishermen have noted an increase in local and export demand for fish, particularly as consumers become more health-conscious and seek sustainable food sources. This creates a clear market opportunity for inland fish producers." Additionally, naturally breeding indigenous fish species help maintain the natural ecosystem of Udawalawe and supports the sustainability of fish production. "In the focus group discussion, few fishermen emphasised the importance of breeding Indigenous fish species, which not only supports sustainability but also enhances biodiversity and helps maintain the ecological balance within the reservoir." Policymakers need to focus on formulating and implementing timely policies to further develop inland fish production in this reservoir. Inland fish production also contributes to biodiversity protection and enhances the natural ecosystem, as noted by Murray & Little (2022). "The chairmen of the fishermen's society advocated for stronger government policies and timely interventions to promote inland fisheries. They highlighted the need for better frameworks that support production growth and resource management too." The suitable stocking density of fish in the reservoir ensures that it does not harm the natural fish population density (Lynch et al., 2016). Regular monitoring of disease conditions and the environment is also necessary to minimise susceptibility to diseases caused by predatory species. In particular, "focus groups highlighted that women play a vital role in inland fish processing and value addition. fishermen reported that these activities not only contribute to economic growth but also empower women and improve community resilience." Moreover, the inland fishery sector helps empower the livelihoods of people in the area. For example, women play a significant role in expanding inland fish processing and value addition activities, contributing to their empowerment. There are also identified threats that reduce inland fish production in this reservoir. These include poor enforcement of national standards for inland fish farming to develop both local and export markets. Although the Udawalawe reservoir is a man-made perennial reservoir, pollution from various sources has sometimes degraded its water quality (Deepananda et al., 2014). Water quality is crucial for enhancing inland fish production (Anusuya et al., 2017; Wickramaarachchi, 2010). As a matter of fact, "the members of the Fishermen's Society highlighted the issue of pollution from agricultural runoff, industrial waste, and other sources affecting the Udawalawe reservoir and they stressed that degraded water quality has direct negative impacts on fish health and productivity. Discussions frequently referenced the importance of maintaining good water quality for fish farming." Thus, the fishermen emphasised that fluctuations in water quality due to pollution and other factors lead to stress and mortality in fish populations. In addition to that, "many fishermen pointed out the absence of regular water quality assessments and monitoring programs, which are crucial for timely interventions to address pollution and its effects on fish production." Thus, it is essential to govern fish production by eliminating chemical pollution in the reservoir and regularly maintaining necessary quality standards.

Additionally, extension services should work to prevent the use of harmful fishing equipment. Extension officers must expand their knowledge and disseminate it effectively to encourage the adoption of new techniques by fishermen. Predatory species also threaten fish seeds in the reservoir, so frequent monitoring is necessary to remove them. The "fishermen identified regulatory challenges, particularly the lack of clear national standards and Environmental threats, such as pollution, were also highlighted as critical issues that need addressing." In addition, the marine fishery sector holds a larger share of the local market due to higher consumer preference for marine fish and marine-fish based products, rather than inland fish (World Bank, 2021; Murray & Little, 2000). Therefore, awareness programs about the importance of inland fish should be conducted to create a better market in the future.

Improving the Socio-Economic Status of Fishermen in the Udawalawe Reservoir Area

The Udawalawe Reservoir, an important inland aquatic system in Sri Lanka, has considerable potential to boost socio-economic benefits through its fisheries. This reservoir hosts a variety of aquatic species and plays a crucial role in providing food security, job opportunities, and income for local populations (Fernando et al., 2024). However, based on the findings of the SWOT analysis, there are several issues: lack of bottom-level support for industry development, limited capital to enhance research and development in inland fish farming, poor quality fish seed production for stocking, ineffective technology transmission, and a lack of value-added inland fish products. Additionally, threats include inadequate national standards for local and export markets, chemical pollution and quality control issues, predation by various species, low consumer awareness of inland fish, and the dominant market share of marine fisheries. Thus, the following improvement framework enhances the scope of improving the socio-economic status of fishermen in the Udawalawe reservoir area.

A Framework to Improve the Socio-Economic Status of Fishermen in the Udawalawa Reservoir Area

This framework (Figure 3) aims to enhance fishermen's financial accessibility by 20%, improve the sustainability of fish seed production by 30%, and enhance market access and community benefits within one year. The improvement process will be measured using three basic aspects: outcome measures, process measures, and balancing measures. This framework was developed through a validation procedure of the findings of the focus group discussions.

Outcome measures include fish seed stock quality parameters, market access metrics, and community welfare indicators. As the fish seed stock quality parameters; fish population density (number of fish per unit area) and biodiversity (variety and abundance of fish species) were considered because "the chairman of the fishermen's society revealed that the major fish seed stock quality parameters are the number of fish per unit area and abundance of fish species." In addition, "The majority of fishermen noted that the metrics for the market access include travel distance to the market and fish prices." Thus, the distance to market (average distance travel to reach the market) and market prices (average prices received for fish)

were used as the measures of market access metrics. Consider the community welfare indicators; education (access to extension and training facilities, fish farming experience) and health care (quality healthcare service access for the minimise spreading of diseases to fish stock as well as the fish seed stock. Process measures involve sustainable fishing practices, market access opportunities, and training programs to enhance the socio-economic importance of inland fishery in this study area. "Most members of the fishermen's committee reported that gear restrictions and fish quotas are the primary sustainable fishing practices." Hence, for sustainable fishing practices; a number of fishermen's sustainable practices (e.g. gear restrictions and fish quotas) and the frequency and quality of market access opportunities (number of market days and price fluctuations) were utilised as the measures of market access opportunities. In particular, "The Secretary of the Fishermen's Society indicated that the number of market days and price fluctuations are significant factors influencing market access opportunities." In the measures of the training programs; the effectiveness of training programs (number of participants and skill improvements) was considered. Balancing measures focus on the impact on fish seed stocks (monitor any negative effects on fish seed stocks from increased fishing activity), resource allocation (assess how resources are distributed among different initiatives), and community impact (evaluate how changes affect different segments of the community) as key factors for maintaining the balance during the improvement process. Thus, most of the fishermen noted that focus on the impact on fish seed stocks, the way resources are distributed among fishermen, and community impact for inland fishing gives more contribution to maintaining the balance to overcome the weaknesses and threats of the inland fishery.

According to these measures, changes will be addressed from economic, environmental, and social perspectives. Economic changes will focus on sustainable fishing practices (develop and promote guidelines for fishing and provide incentives for adopting these practices), corporate marketing strategies (establish cooperatives for joint marketing and resource pooling), and financial accessibility (enhance access to credit and financial services for fishermen and train fishermen in financial management and value-added product development). Environmental changes will include fishery management practices and habitat conservation. Under the fishery management practices, implementing regulated fishing seasons to allow for breading periods and also creating and enforcing regulations in critical fish habitats were considered. While conducting habitat restoration projects, spawning grounds and water quality were selected as the measures of habitat conservation. Social changes will emphasise community engagement and support services. In community engagement; organise workshops and forums to engage communities in sustainable practices and improve access to extension services and training programs. Enhancement of support for community health and education services was utilised as the measures under support services. In particular, "the Chairman of the Inland Fish Society reported the economic, environmental, and social perspectives necessary for the sustainable development of the inland fishery sector, focusing on adaptive strategies."

The success of the framework can be evaluated through a systematic Plan-Do-Study-Act approach, with the potential for scaling up to other similar communities based on demonstrated effectiveness. The Plan stage mainly focuses on developing pilot projects in a few communities of inland fishery to test new fishing practices, market strategies, and support services (e.g. implement new fishing practices, corporative strategies and support services). In the Do stage; roll out the pilot projects on a small scale, and implement new fishing practices, corporative strategies and support services. (e.g. monitor and record data related to income levels, fish seed stock quality and community benefits). The Study stage focuses on analysing the collected data to assess the effectiveness of the interventions, and determining whether the financial accessibility of fishermen has increased, whether fish seed stocks are in quality, if market access and community benefits have improved through evaluating the increment of fishermen's financial accessibility, improvement of fish seed stock, increment of market access and community benefits. The Act stage involves refining the interventions based on the data and feedback (making necessary adjustments for the gaps). If pilot projects are successful, scale up the changes to other communities in the inland fishery sector.

### Adaptive Strategies of the Improvement Framework

Stakeholder Engagement: Continuous dialogue with stakeholders (e.g.- extension officers and policymakers) is essential for the success of the improvement framework for the Udawalawe Reservoir fishery. Identifying key stakeholders, establishing effective communication channels, involving them in decision-making, ensuring transparency and building trust are critical steps. Engaging stakeholders effectively not only enhances the relevance and effectiveness of the interventions but also fosters collaboration and support for enhancing the socio-economic importance of inland fishery.

Resource Allocation: Efficient resource allocation is crucial for the success of the improvement framework for the Udawalawe Reservoir fishery. Identifying priority needs, developing a comprehensive allocation plan, implementing resources effectively, ensuring transparency and accountability, and continually reviewing and refining the approach are key components. This structured approach ensures that resources are utilised optimally to address the most pressing challenges and opportunities in the fishery sector.

Monitoring and Evaluation: A robust monitoring and evaluation (M&E) system is essential for the successful implementation of the improvement framework for the Udawalawe Reservoir fishery. Designing an effective M&E system, implementing regular data collection and analysis, evaluating outcomes, making necessary adjustments, and ensuring the system's robustness are critical steps. This systematic approach helps in tracking progress, assessing the impact of interventions, and achieving the framework's objectives. Figure 3 presents the improvement framework for the socio-economic importance of inland fishery in this reservoir.

"The majority of the fishermen committee members of the fishermen society showed the proper identification of key stakeholders is significant to establish more effective communication channels to support the enhancement of the socio-economic importance of inland fishery through their decision-making and also the sustainable fishing practices. Also, identifying priority needs, developing a comprehensive allocation plan and implementing resources effectively benefited enhancing of the socio-economic importance of inland fishery with an effective M&E system with this system."

Figure 2: Framework to improve the socio-economic status of fishermen
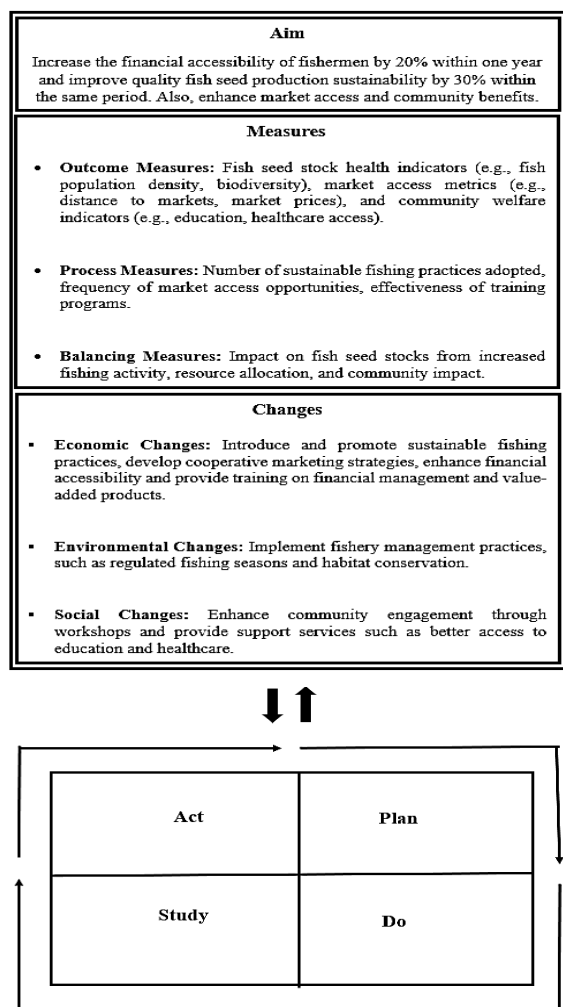
Source: Researchers' creation, 2024

CONCLUSION

The findings of the research reveal that the majority of fishermen are middle-aged, married, have received a considerable level of formal education, and enjoy family support for their fishing activities. Additionally, most have significant experience in inland fish farming, which contributes to their success in the field. A substantial number of fishermen also earn a significant monthly income from their inland fishing activities at this reservoir.

Inland fishing in this area holds a considerable level of economic importance, including enhancing employment opportunities, expanding production capabilities of inland fish and related products, serving as a nutritious food source for fishermen's households, and providing a protein supplement. Socially, inland fishing empowers fishermen's livelihoods, strengthens social networks among them, and increases awareness of inland fishing activities.

While there are several strengths and opportunities related to the development of the inland fishery sector, there are also weaknesses and threats that negatively impact its development. Key weaknesses include inadequate adherence to national standards for inland fish farming, which hampers the development of both local and export markets, and declining water quality due to exposure to pollution.

The proposed framework offers a structured approach to improving the socio-economic and environmental conditions for fishermen in this area. By implementing and refining these measures, the framework aims to achieve significant improvements in financial accessibility, fish seed production sustainability, and community well-being. The success of the framework can be evaluated through a systematic Plan-Do-Study-Act approach, with the potential for scaling up to other similar communities based on demonstrated effectiveness. Thus, the existing knowledge gap in assessing the socio-economic importance and adaptive strategies of inland fishermen can be addressed by offering practical solutions to enhance the resilience, sustainability, and livelihoods of inland fishing communities. The proposed framework, based on a systematic Plan-Do-Study-Act approach, aims to identify objectives, measure progress, and implement changes through proper stakeholder engagement, resource allocation, and an effective M&E system. This approach will help to fill the research gap and provide adaptive strategies to elevate the socio-economic importance of inland fisheries.

Implications of the Study

Based on the study findings, several implications can be made for key stakeholders (e.g. NAQDA, AQDC, National Government, and fishermen) in the inland fishery sector to improve fish production in this reservoir.

NAQDA's Perspective: NAQDA should organise training and extension programs to disseminate useful information and technologies to inland fishermen. They should also conduct extension programs to raise awareness about the importance of using appropriate fishing equipment, and disseminate the latest information on inland fish farming practices to enhance fishermen's adoption of modern production techniques. Furthermore, NAQDA can launch promotional campaigns to increase consumer demand for inland fish products within the local market and introduce inland fish products and their value-added variants to expand to the markets.

AQDC's Perspective: AQDC should ensure the provision of all necessary resources for quality fish seed production and regularly identify and address diseases or other harmful incidents that could lead to losses in fish production. They should also monitor the reservoir frequently to capture and isolate predatory species and organise awareness programs to prevent chemical pollution and maintain water quality.

National Government's Perspective: The government should increase support at the grassroots level to further develop inland fish production, allocating additional funds to encourage research and development activities aimed at boosting production. Efforts should also focus on empowering women involved in inland fish production and value-added activities to improve their living standards. Additionally, improving financial accessibility for inland fishermen to purchase necessary equipment, and encouraging policymakers to formulate and implement updated policies for the continued development of inland fish production, are critical.

Fishermen's Perspective: Fishermen should focus on expanding the production of value-added inland fish products for consumption during the off-season. They should adapt the latest technologies to mitigate the adverse effects of weather conditions and implement national standards for inland fish production to meet the demands of both local and export markets.

Limitations of the Study

The sample of 45 fishermen from a population of 250 may not fully capture the diversity of experiences within the community, risking biased results. The reliance on self-administered questionnaires could introduce bias, as respondents might misinterpret questions or provide socially desirable answers. Although focus group discussions allow for a range of insights and a deeper understanding of fishermen's beliefs, values, and social dynamics, they may be dominated by more vocal participants, limiting the diversity of perspectives. The subjective nature of the SWOT analysis can also lead to conflicting interpretations of strengths, weaknesses, opportunities, and threats. Additionally, the study focuses primarily on socio-economic factors, potentially overlooking important ecological and environmental aspects. The findings may not be generalisable to other inland fisheries due to differing contexts, and time constraints might have limited the depth of data collection, potentially resulting in a superficial analysis.

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Factors Influencing the Customer Satisfaction of Fund Management Companies in Sri Lanka

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Abstract

In recent decades, customers have emerged as a crucial force in driving business success, with customer satisfaction now playing a pivotal role in an organisation's survival. This trend extends to fund management companies in Sri Lanka, which are highly focused on their customers' satisfaction. Consequently, it is essential for these companies to develop a comprehensive understanding of the factors that drive customer satisfaction. This study aims to identify and examine the key elements that influence customer satisfaction specifically within the context of fund management companies. Data for the study was gathered using a structured questionnaire to select the sample. The study collected data using a structured questionnaire and selected the sample through a multistage sampling method, receiving responses from 300 customers. To analyse data, Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed with all tests conducted using Minitab-17 and SamartPLS 3 statistical software. Based on factors identified from previous scholars' literature, the result indicates that both reliability and responsiveness are statistically significant and there is a significant influence on customer satisfaction of fund management companies in Sri Lanka. However, it also revealed that both convenience and empathy had no significant impact on customer satisfaction. Among the variables examined, the reliability factor was identified as having the most substantial effect on customer satisfaction in fund management companies. In conclusion, the study highlights that among the variables examined, the reliability factor has a significant impact on customer satisfaction of fund management companies. The study recommends that the government crafts and implements new policies designed to foster growth and collaboration between fund management companies and their customers.

Keywords: Convenience, Customer satisfaction, Empathy, Reliability, Responsiveness

INTRODUCTION

In today's competitive global market, customers have emerged as a primary driving force for businesses. As a result, businesses invest significant effort in retaining customers. From the customer's perspective, they remain loyal to companies that consistently deliver that high level of satisfaction they expect from the products or services they receive. Therefore, businesses invest significant effort in retaining customers. From the customer's perspective, they continue to engage with companies that deliver the level of satisfaction they anticipate from products or services delivered. Almost every customer tries to get the maximum pleasure from the goods or services that they consume. Consequently, customer satisfaction has become a critical determinant of business survival. Business now prioritises delivering exceptional satisfaction through their products and services to ensure their continued success. In this context, customer satisfaction is a key driver in the current competitive market landscape.

As a result, many businesses are increasingly focused on meeting customer expectations and ensuring satisfaction with the products they offer. This customer-centric approach helps companies gain a competitive advantage in the marketplace. As noted by Reddy and Reddy (2018:461), "the higher customer satisfaction level leads to a higher market share". This highlights the critical link between customer satisfaction and business success, encouraging organisations to prioritise their customers' needs and perspectives. Giving a high level of satisfaction to their customers increases the demand for the company's products, which in turn affects the company's reputation as well as growth. Businesses rely on their customers just as customers depend on businesses, making customer satisfaction a significant challenge across all types of industries (Alafi & Al Sufy, 2012). This interdependence highlights the importance of understanding and addressing customer needs. Over the past few years, the financial sector has witnessed a noticeable shift, with companies showing greater attentiveness to their customers. Unlike in the past, customers today are more open to using various financial tools, with fund management becoming increasingly important in their financial activities. This evolving landscape underscores the necessity for businesses in the financial sector to prioritise customer satisfaction to remain competitive and relevant.

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Therefore, the rise of fund management companies globally can be attributed to the growing interest among individuals and organisations in effectively managing their financial assets. These companies collect funds from clients and strategically invest them across various avenues to maximise returns. Typically, fund management companies prefer to create diversified portfolios, including stocks and bonds, to mitigate investment risk. This approach not only aims to enhance returns but also provides clients with a more stable investment experience by spreading risks across different asset classes. For that, they mainly follow two types of fund management; conventional fund management and mutual fund management. Among these two the most common form of method is mutual fund, which is a single portfolio of stocks or bonds held by the company on behalf of many investors. However, whichever type is chosen by the customer, fund management companies have the responsibility of managing their clients' funds effectively. To effectively fulfil this responsibility, companies aim to retain their customers while continuously providing high customer satisfaction by investing those funds in a way that maximises benefits to their customers (Pellinen, Tormakangas, Uusitalo & Raijas, 2011). Although this fund management is seen as a topic of importance today, it has continued to expand around the world over the past few decades and has witnessed a frenetic pace of growth. Therefore, there is already a large number of fund management companies operating around the world and in Sri Lanka also people's attention is increasingly focusing on both fund management and fund management companies.

Considering the Sri Lankan context, the concept of fund management has created a social discourse today. Therefore, fund management companies are being established in Sri Lanka and it appears that both individuals and organisations seek the assistance of fund management companies to manage their funds. According to the Securities and Exchange Commission of Sri Lanka, there are 24 listed investment management companies in Sri Lanka. These companies invest their customers' funds in effective investment avenues to acquire high returns, and similar to other business entities, fund management companies also expect to maximise their customers' satisfaction. As noted earlier, these companies are responsible not only for delivering high returns on customer investments, but also for ensuring reliability, providing essential knowledge and quality information about fund management, and creating an environment that allows for convenient customer interaction. By offering a comprehensive range of services, these companies aim for the highest level of customer satisfaction. This focus is critical, as dissatisfaction among customers can pose significant challenges to the sustainability and success of fund management companies. Ultimately, fostering strong relationships with customers is essential for their long-term viability in a competitive market.

With the increasing emergence of fund management companies in Sri Lanka, it is essential for these firms to prioritise customer retention and maximise satisfaction in a competitive market. Understanding the factors that influence customer satisfaction is crucial for fund management companies. By identifying and focusing on these determinants, companies can better meet their clients' needs and enhance their overall experience.

Therefore, the primary objective of this study is to identify the significant factors that affect customer satisfaction among fund management companies in Sri Lanka. This study explores the relationship between various influential factors in customer satisfaction of fund management companies. The findings will have practical implications for stakeholders, including fund management firms, policymakers, and government agencies responsible for regulating fund management in Sri Lanka. Through understanding these connections, the study seeks to provide valuable insights that can enhance customer satisfaction and foster improved practices in the industry.

LITERATURE REVIEW

Today, many people, both globally and locally, are moving to fund management and seeking the assistance of fund management companies to have proper guidance for the management of their funds. Therefore, due to increasing competition among fund management companies, they try to retain their customers within the company and to enhance their customers' satisfaction. In this endeavour, it is very important to have a good understanding of the factors that raise customer satisfaction.

Theoretical Background

Customer Satisfaction: Customers are the driving force behind any business. Prabhakaran and Sathya (2003) attest that the customer is paramount in any organisation. In today's competitive business landscape, customer satisfaction is a critical focus. Muktar, Iman, Asiq, Amjad, and Nasar (2014) state that customer satisfaction is the most vital factor that influences companies, and they emphasise that there are many factors such as tangibility, assurance, reliability, and empathy which lead to enhancing customer satisfaction. Customer expectations continually evolve due to advancements in knowledge and technology within organisations. Consequently, predicting long-term customer retention and sustained satisfaction poses a significant challenge. As noted by Alafi and Al Sufy (2012), customer satisfaction has become a formidable challenge in today's business environment. Also, Lopez-Alarcon (2003) who investigated customer satisfaction in the financial services industry, emphasised that, in a competitive global marketplace, managing customer relationships requires careful and logical consideration. Regarding customer satisfaction, several researchers including Lambert (1998); Daub and Ergenzinger (2005) and Xiao, Cai, and Jin, (2009) have stated that customers' behaviour sensitively impacts financial companies and both profitability and future success of these organisations are closely tied to the customer satisfaction level.

Reliability: Reliability is understood as the ability to meet customer trust and satisfaction in a standard manner consistently (Iberahim, et al., 2016). Regardless of the type of business, negotiation, and engaging with customers reliably are essential for a company's survival. Providing excellent service in a consistent manner enhances customer satisfaction (Karatepe, 2011; Hassan, et al., 2020). Because reliability is tremendously valued by every human being, it aligns closely with concepts of security, privacy, and assurance. Both fund management companies and their customers place significant importance on reliability. In the context of fund management, various dimensions of reliability play distinct roles in enhancing customer

satisfaction. As focusing on reliability affects fund management companies to maximise their customer satisfaction, each dimension plays a different role in affirming reliability. Security is free from risks like investing money, and privacy is the protection of individuals or company details regarding their funds. Similarly, assurance is a positive covenant intended to give confidence to the customer. Achieving these will enable companies to preserve customer relationships with the company in the long run and to maximise the customers' satisfaction continuously. Therefore, maintaining and enhancing reliability is crucial (Muktar, et al., 2014).

Responsiveness: Responsiveness is defined as the capability to promptly and accurately meet customer requirements (Iberahim, et al., 2016; Janahi & Al Mubarak, 2017). It is a critical quality for effective communication and significantly impacts business success (Ismail, et al., 2009; Munusamy, Chelliah & Mun, 2010; Janahi & Al Mubarak, 2017). To satisfy and retain customers, businesses must prioritise responsive interactions. Financial companies also can enhance customer satisfaction by providing timely and effective feedback to inquiries related to transactions (Capon, et al., 1994; Mistry, 2013). Ultimately, the company's responsiveness positively influences customer satisfaction and encourages favourable referrals.

Convenience: Convenience plays an important role in enhancing customer satisfaction by allowing customers to save time and effort during their purchases (Srivastava & Kaul, 2014; Pattarakitham, 2015). According to Colwell, et al., (2008), greater convenience can provide a competitive advantage for businesses, with factors like location being particularly important in attracting customers. Other than that, convenience consists of customers easily and quickly obtaining the information they need. Facilitating transactions using new technological tools also ensures the customer's satisfaction with the company (Srivastava & Kaul, 2014). As a result, to boost satisfaction, fund management companies should focus on offering convenient services to improve their customer retention and overall satisfaction.

Empathy: Empathy entails showing genuine care, attentiveness, and a thorough understanding of customers' perspectives. (Muktar, et al., 2014; Janahi & Al Mubarak, 2017). According to Wieseke, et al., 2012, the core of empathy is the feeling that the customer is unique and special to the business entity. The key components of empathy include personal attention and timely responses to customers' requirements and meeting their needs on time (Ismail, et al., 2009). For fund management companies, demonstrating empathy can lead to long-term customer retention, as satisfied clients are more likely to remain loyal (Mekkriengkrai & Phanwichit, 2019) and similar to other factors, empathy also play a vital role when enhancing customer satisfaction.

Empirical Evidence

In the empirical literature, the study discusses the interaction between the influential factors on customer satisfaction, concentrating on previous scholarly findings. The empirical literature on customer satisfaction has mainly identified the affecting factors like reliability, responsiveness, convenience and empathy.

Muktar, et al. (2014), investigated customer satisfaction levels in financial services, identifying key factors that influence satisfaction, and in their study, they focused on dimensions of service quality including tangibility, responsiveness, assurance, reliability, and empathy. The findings revealed that tangibility and assurance are the most significant factors affecting customer satisfaction, while empathy and reliability show a strong correlation. In contrast, responsiveness has a low correlation with customer satisfaction. Overall, the results indicate that all examined factors positively influence customer satisfaction, highlighting the importance of service quality in the financial sector. A study exploring the factors affecting customer satisfaction was conducted by Janahi and Al Mubarak, (2017), focusing on reliability, empathy, assurance, responsiveness and tangibility. Their findings indicated that each of these factors has a strong positive influence on maximising customer satisfaction. Moreover, Lopez-Alarcon (2003) investigated the factors that influence customer satisfaction in the financial service industry, emphasising the need for logical customer management in a competitive global landscape. His study identified ten key factors, including tangibility, reliability responsiveness, competence, courtesy, safety, access, communication and empathy. The results showed that all the factors contribute significantly to customer satisfaction, with a tremendous impact on both reliability and responsiveness. Numerous scholars have explored the connection between customer satisfaction and business organisations across various fields, consistently finding that customer satisfaction is very important in each context. Though the specific factors influencing satisfaction may vary by industry, most studies indicate that these factors significantly impact customer satisfaction. However, there has been limited research specifically examining the key drivers of customer satisfaction within fund management companies, highlighting a gap in the literature that requires further exploration.

The existing theoretical and empirical literature review attests that while the factors influencing customer satisfaction in fund management companies are widely studied internationally, they are rarely examined in the Sri Lankan context. Scholars also highly highlight factors like reliability, tangibility and responsiveness, often overlooking the importance of convenience and empathy. This knowledge gap presents an opportunity for further investigation. Therefore, the present study aims to address this gap by evaluating the factors that influence customer satisfaction in fund management companies in Sri Lanka.

Conceptual Framework

The conceptual framework has been developed in order to achieve the research objectives of the study and it clearly indicates the relationship between independent variables; reliability, responsiveness, convenience, and empathy on customer satisfaction of fund management companies.

Figure 1: Conceptual framework
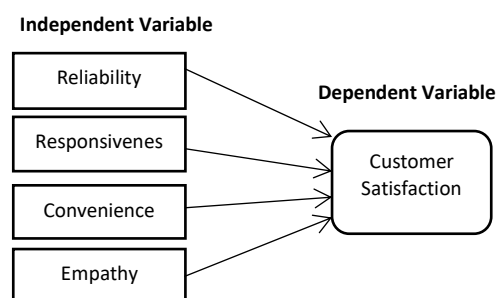
Source: Developed by researcher, 2021

Hypotheses Development

Customer satisfaction is considered one of the main aspects of the strategies of every business entity including fund management companies. Therefore, to identify the relationship between reliability, responsiveness, convenience, empathy, and customer satisfaction, the following hypotheses have been proposed by the researcher.

H1: There is a significant influence of reliability on customer satisfaction of fund management companies.

H2: There is a significant influence of responsiveness on customer satisfaction of fund management companies.

H3: There is a significant influence of convenience on customer satisfaction of fund management companies.

H4: There is a significant influence of empathy on customer satisfaction of fund management companies.

MATERIALS AND METHOD

The aim of this study is to identify the factors that influence customers' satisfaction with fund management companies in Sri Lanka. Accordingly, the study adopts a positive research philosophy. This research has the ability to predict exact relationships, which means researchers can develop directional forms of hypotheses regarding research called Objectivism under the Ontology concept. Further, under the epistemology concept, researchers have applied quantitative techniques to measure reality through valid tools, which is the most appropriate methodology for this research.

This study provides a framework to test hypotheses grounded in existing literature, allowing the researcher to explore the relationship between variables such as reliability, responsiveness, convenience, and empathy in the context of customer satisfaction within fund management companies in Sri Lanka. The deductive approach has been used by the researcher to examine established concepts and patterns derived from theory. In terms of purpose, this study is categorised as applied research, as it addresses the practical problem of identifying factors influencing customer satisfaction in fund management. In terms of objectives, this research applies to the category of explanatory.

In this study, customer satisfaction served as the dependent variable while independent variables included reliability, responsiveness, convenience and empathy. The central focus was on collecting data from a sample of customers

using a structured questionnaire. This section outlines the sampling process, data collection techniques, methods for measuring reliability, and the tools and techniques used for data presentation.

Sampling Process: There are twenty-four listed investment management companies in the Securities and Exchange Commission of Sri Lanka. Practically, it is impossible for a researcher to gather responses from all companies for the purpose of data collection. From the total of twenty-four companies, four were selected for this study, focusing on those actively managing funds for their customers.

Figure 2: Sampling framework
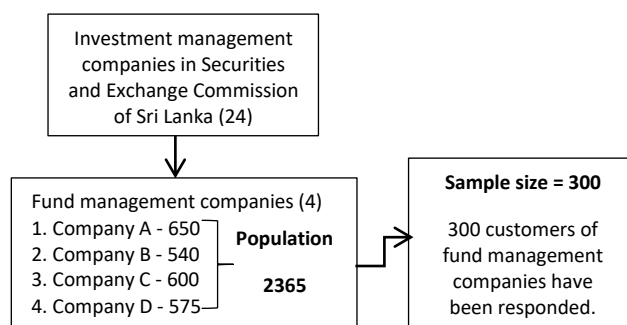
Source: Developed by researcher, 2021

Data Collection: This research is centred on gathering primary data through a structured questionnaire administered to the sample. With the difficulty of distributing the questionnaire physically to the customers of fund management companies due to the pandemic situation in the country, a questionnaire was designed using Google Forms, and the data was collected by making it available to customers online. Part A of the questionnaire comprised the demographic characteristics of the customers to gather information about the sample population. Part B included multiple choice questions to identify customers' patterns of investing in fund management, and part C consisted of 5-point Likert scale questions ("strongly disagree" to "strongly agree"), applicable to both independent and dependent variables. To measure the significance of the independent variables on the dependent variable, 5-point Likert scale was used.

Data Analysis: Descriptive statistics were applied to the demographic data of the respondents to outline the fundamental characteristics of the sample. The collected data was analysed using factor analysis, which can be used to reduce a large number of variables into a smaller number of variables, and the study used the factor analysis technique to combine the relevant dimensions into one variable. Therefore, Structural Equation Modelling (SEM) has been used, which is a very powerful quantitative data analysis method in statistics.

There are two main parts in structural equation modelling as measurement model (outer model) and the structural model (inner model) and this study followed these two models. The measurement model has two analyses as first-order analysis and second-order analysis. In scientific research, variables should be measured in a reliable and valid manner. In first-order analysis under the measurement

model, original data were used and based on that indicator reliability, internal reliability, and consistency (Cronbach's Alpha value) were calculated. Then, convergent validity was measured by Average Variance Extracted (AVE) and discriminant validity was measured through the Fornell-Lacker criterion analysis. In second-order analysis, latent variables have been used again to identify indicator reliability, internal reliability and consistency. To assess the validity of the constructs, both convergent validity and discriminant validity were evaluated.

Afterwards, the structural model (inner model) was calculated to show the relationship between the independent variables and the dependent variable which is shown through the conceptual framework (Figure 1) of this study. For that, the researcher followed five steps to analyse the structural model as follows:

Step 1: Assessment of collinearity

Step 2: Assess the significance and relevance of path coefficients

Step 3: Asses the level of R2 (Coefficient of Determination)

Step 4: Assessment of f-squared (f2) – Effect size

Step 5: Assess the Predictive Relevance (Q2)

Based on the results obtained from the model, previously developed hypotheses have been tested under the 95% significant level and all the data has been analysed through Minitab -17 and SmartPLS 3 Statistical Packages.

RESULTS AND DISCUSSION

As the next step of the research, this chapter discusses and interprets the collected data from both primary and secondary sources in a systematic manner.

Table 1: Demographic details of the respondents

Variable		Frequency	Percentage
Gender	Male	245	82%
	Female	55	18%
Age	below 20	-	0%
	20 – 29	35	12%
	30 – 39	66	22%
	40 – 49	145	48%
	above 50	54	18%
Marital status	Single	56	19%
	Married	244	82%
Level of education	Up to GCE Advanced Level	-	0%
	Graduate	35	12%
	Professional qualification	4	1%
	Master Degree	237	79%
	PHD	24	8%
Occupation	Entrepreneur	40	13%
	Public sector employer	47	16%
	Private sector employer	213	71%

	Retired	-	0%
Level of income	below 25,000	-	0%
	25,000 - 50,000	22	7%
	51,000 – 75,000	88	29%
	76,000 – 100,000	137	46%
	above 100,000	53	18%

Source: Survey data, 2021

Table 2: Descriptive statistics of variables

Variable	Median	Standard deviation	Max	Min	Kurtosis	Skewness
Independent variables						
Reliability	0.42	1	0.75	-3.93	4.61	-2.06
Responsiveness	0.56	1	0.56	-3.84	4.30	-2.06
Convenience	0.61	1	0.61	-3.83	5.03	-2.25
Empathy	0.30	1	0.57	-5.99	9.70	-2.92
Dependent variable						
Customer satisfaction	0.13	1	1.33	-4.09	2.29	-1.13

Source: Survey data, 2021

Table 3: Validity and reliability constructs of first-order analysis

Construct	Indicator Reliability		Internal Reliability	Consistency	Convergent Validity
	Loadings	t-statistics	Composite Reliability	Cronbach's Alpha	AVE
Independent Variables					
Reliability			0.89	0.84	0.61
RE2	0.83	30.39			
RE3	0.74	16.75			
RE4	0.84	26.77			
RE5	0.76	16.91			
RE6	0.73	15.87			
Responsiveness					
RES2	0.99	291.13	0.99	0.98	0.97
RES4	0.98	202.76			
RES6	0.99	300.32			
Convenience					
CON3	0.87	29.50	0.89	0.81	0.73
CON5	0.89	27.52			
CON6	0.79	17.79			
Empathy					
EM1	0.75	15.66	0.94	0.92	0.73
EM2	0.84	24.8			

EM3	0.89	48.52
EM4	0.89	34.37
EM5	0.91	44.73
EM6	0.84	16.13
Dependent Variable		
Customer Satisfaction		0.89 0.85 0.68
S1	0.85	37.78
S2	0.85	34.74
S3	0.79	25.18
S4	0.80	25.53

Source: Survey data, 2021

Under the first-order analysis, at first, indicator reliability was calculated with their outer loadings and t-statistics. Then, accordingly, composite reliability and Chrobach's alpha values were calculated to measure internal reliability and consistency. Afterwards, to measure validity, both convergent validity (AVE) and discriminant validity (Fornell-Lacker criterion) tests were estimated by the researcher. In this study, certain questions were excluded from the analysis due to their out-loading values being below 0.7. These items were deemed unreliable and did not meet the threshold for acceptable measurement quality in the survey data.

Table 4: Omitted questions

Variable	Question Number	Question
Reliability	RE1	The company meets your expectations without hesitation.
Responsiveness	RES1	The company responds to your requirements timely.
	RES3	The company is ready to respond to your enquiries.
	RES5	The company assists you in managing your funds at any time.
Convenience	CON1	The company is located within easy reach of you.
	CON2	The company's business hours are easy for you.
	CON4	The company uses new equipment for smooth transaction of fund management.

Source: Survey data, 2021

Test of Reliability: As shown in Table 3, all the outer loading values of the questionnaire items exceed 0.7 indicating that under the first-order analysis, they exhibit satisfactory indicator reliability. Considering the t-values of the question items, all the items are consistent with high values which are completely significant at a 95% confidence level. Therefore, both outer loadings and t-statistics express that the model has high reliability in constructs. Considering both internal reliability and consistency, according to the general rule of thumb, values which are greater than 0.7 are good. Here, all the values are greater than 0.7, which reflects that there is both high reliability and consistency.

Test of Validity: Validity is an important aspect of any study which refers to the extent to which the instrument measures what it was designed to measure. Here, the research has been done following two types of validity tests; convergent validity test, and discriminant validity test. According to Table 3, confirming that there is convergent validity under the first-order analysis, all the AVE values have shown higher values which are above the acceptable level of 0.5. In addition to that, Table 5, which shows the discriminant validity under the Fornell-Lacker criterion, also reflects that under the first-order analysis all the values are significant at a 95% significance level.

Table 5: Fornell-Lacker criterion analysis for checking discriminant validity

Variable	CS	RE	RES	CON	EM
Customer Satisfaction (CS)	0.82				
Reliability (RE)	0.49	0.78			
Responsiveness (RES)	0.44	0.51	0.98		
Convenience (CON)	0.33	0.46	0.45	0.85	
Empathy (EM)	0.36	0.46	0.46	0.45	0.86

Source: Survey data, 2021

Structural Model (Inner Model)

The inner model is the part of the model that illustrates the relationship among variables and that makes up the model which is referred to as the structural model. To study the inner model, this section has followed different statistical tests; collinearity, hypothesis testing of the structural model, coefficient of determination (R^2), effect size (f^2) and predictive relevance (Q^2).

Assessment of Collinearity: Table 6 shows the VIF values of the inner model which reflect the relationship between independent variables and the dependent variable. There are no variables that have high multicollinearity and all the variables are consistent with low VIF values with the dependent variable. Considering the values of tolerance, all the variables have values above 0.2 and therefore, it reflects that there is no collinearity in the model.

Table 6: Collinearity inner model

Variable	Collinearity Statistics	
	Tolerance	VIF
Reliability	0.638	1.567
Responsiveness	0.640	1.562
Convenience	0.677	1.476
Empathy	0.672	1.488

Source: Survey data, 2021

Assess the Significance and Relevance of the Structural Model Relationships: The path coefficients and t-statistics of each variable are presented below in Table 7 and it reflects the significance of each variable in the inner model and the relationship between the independent variables and the dependent variable of the study.

Table 7: Path coefficients and significance among constructs

Hypothesis	Relationship	t-statistics	Co-efficient	Result
H1	RE -> CS	4.812	0.324	Supported
H2	RES -> CS	2.739	0.208	Supported
H3	CON -> CS	0.802	0.427	Not Supported
H4	EM -> CS	1.086	0.098	Not Supported

Source: Survey data, 2021

Asses the Level of R2 (Coefficient of Determination): Table 8 presents the R-square and adjusted R- square of the model. The R-square value is 0.304, indicating a moderate effect. This suggests that selected independent variables in the model explain 30.40% of the variation in the dependent variable. Additionally, the adjusted R-square of the model shows 0.294, which means 29.4% of the variation in the dependent variable is explained after adjusting for the number of predictors in the model.

Table 8: Coefficients of Determination

R^2	R^2 (Adjusted)
0.304	0.294

Source: Survey data, 2021

Assessment of F-Squared (f2) – Effect Size: According to the above Table 9, each independent variable has a small effect on the dependent variable; customer satisfaction.

Table 9: Effect of size

Variable	f^2 value	Effect size
Reliability	0.096	Small
Responsiveness	0.040	Small
Convenience	0.002	Small
Empathy	0.009	Small

Source: Survey data, 2021

Assess the Predictive Relevance (Q2): Q2 is the predictive relevance measure which tests if the model has predictive relevance or not. Table 10 shows that this model has a 0.248, Q2 value and it has predictive relevance.

Table 10: Cross-validation redundancy

	SSO	SSE	$Q^2 = (1\text{-SSE/SSO})$
Customer Satisfaction	300	225.711	0.248

Source: Survey data, 2021

Hypothesis Testing

To identify the relationship between reliability, responsiveness, convenience, and empathy on customer satisfaction, the following hypotheses were proposed by the researcher and based on Table 7, these hypotheses are going to be discussed.

As shown in Table 7, there is a positive relationship between reliability and customer satisfaction while consistent with the +0.324-coefficient value. Further, under the significance level of 95% also the variable has been significant with a t-value of 4.812. Therefore, it is concluded that increasing the level of reliability by one unit will increase customer satisfaction by 0.324. Hence, this hypothesis **(H1)** is accepted and this result is parallel to the findings of Muktar, et al., (2014) which shows reliability significantly influences customer satisfaction and positively correlates with customer satisfaction.

According to Table 7, there is a positive relationship between responsiveness and customer satisfaction while corresponding with the +0.208-coefficient value. Further, under the significance level of 95%, the variable has been significant with a t-value of 2.739. Therefore, it is concluded that increasing the level of responsiveness by one unit will increase customer satisfaction by 0.208. Hence, this hypothesis **(H2)** is accepted and this result is similar to the idea of Shanka, (2012) who concluded that responsiveness significantly influences customer satisfaction and that it has a high positive correlation with customer satisfaction.

As shown in Table 7, the coefficient value of the convenience variable is +0.427, but with the t-value of 0.802, the variable is not significant under the 95% significance level. Therefore, hypothesis **(H3)** is not accepted and it explains that there is a significant influence of convenience on customer satisfaction of fund management companies.

According to Table 7, the coefficient value of the empathy variable is +0.098, but with the t-value of 1.086, the variable is not significant under the 95% significance level. Therefore, hypothesis **(H4)** is not accepted and it explains that there is a significant influence of empathy on customer satisfaction of fund management companies.

CONCLUSION

Currently, Sri Lankans are increasingly seeking to manage their funds through fund management companies, recognising the importance of effective fund management for their future investments. As the number of customers grows, competition among these companies intensifies, prompting them to focus on retaining their customers by delivering high-quality services. To achieve this, it is very

much essential to understand the needs and preferences of fund management customers. Therefore, this study aims to identify the factors that influence customer satisfaction of fund management companies in Sri Lanka, as well as to explore the relationship between these factors and customer satisfaction, assessing their impact on the overall satisfaction of fund management companies.

This study thoroughly examined the factors influencing customer satisfaction in fund management companies, focusing on reliability, responsiveness, convenience and empathy. The data analysis reveals that both reliability and responsiveness significantly enhance customer satisfaction, with reliability having the strongest impact. Conversely, convenience and empathy also showed a positive relationship with customer satisfaction; their influence was statistically insignificant. The findings support the hypothesis regarding reliability and responsiveness, highlighting their critical roles in shaping customer perceptions. Despite not reaching statistical significance, the positive association of convenience and empathy suggests they still contribute to overall satisfaction. Ultimately, the research underscores the paramount importance of reliability in fostering customer satisfaction among fund management companies in Sri Lanka, recommending that these companies prioritise reliability to improve service quality and customer relationships.

Implications and Policy Recommendations

As the financial industry expands in Sri Lanka, an increasing number of individuals are seeking assistance from fund management companies to manage their funds. It is essential for stakeholders in this sector to take proactive measures to ensure the industry's growth and the success of these companies. This study offers several implications and recommendations for relevant parties:

- Develop initiatives to increase public knowledge about fund management and the services provided by fund management companies, as awareness is currently minimal.
- The government should actively engage in promoting the financial industry by providing support to established firms and creating incentives for new entrants into the market.
- New policies should be created to facilitate effective fund management, while also encouraging both fund management companies and customers to engage in the sector.
- Emphasize the importance of customer behaviour and knowledge of fund management to enhance overall fund management practices.
- Invest in research and development activities tailored to the needs of the fund management industry in Sri Lanka to foster innovation and improve service offerings.

Directions for Future Researchers

Based on the both outcomes and limitations of this study, several suggestions can be made for future researchers. There is ample opportunity for further investigations using additional variables beyond these four examined that may influence customer satisfaction in fund management companies in Sri Lanka, Additionally, the current study's sample of 300 respondents may not fully represent the broader population of fund management companies, therefore further studies could benefit from a more comprehensive sampling design to better capture diverse perspective. Finally, while this study focuses exclusively on customer satisfaction, there is significant potential to explore customer loyalty, an area that remains under-examined in this context. Addressing these aspects could provide deeper insights into customer relationships within the fund management sector.

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