

Geospatial Analysis on Land Use Changes of Kegalle Divisional Secretariat Division in Sri Lanka

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Abstract

Land use change, defined as the transformation of land from one function to another, is a significant global environmental issue with direct implications for ecosystems, biodiversity, and resource sustainability. This study investigates spatial and temporal land use dynamics in the Kegalle Divisional Secretariat Division (DSD) from 1990 to 2023 and projects future changes up to 2033. Secondary data were obtained from the Survey Department and Google Earth Pro, while spatial analysis was conducted using ArcGIS 10.7 and Microsoft Excel. Ten land use categories were examined, including built-up areas, coconut, paddy, rubber, forest, scrub, tea, water bodies, and rocky areas. The results reveal substantial transformations in land use over the 33 years. Built-up areas expanded from 33.98 km² (32.17%) in 1990 to 60.92 km² (56.82%) in 2023, representing a 56.8% increase, and are projected to reach 69.08 km² by 2033. In contrast, agricultural land uses such as coconut, paddy, and rubber have markedly declined, with coconut cultivation predicted to disappear entirely by 2033. Forest cover and water bodies have also diminished, posing risks to biodiversity and water resources. Future land use projections indicate continued urban expansion alongside declining agricultural and forest areas. These trends highlight the urgent need for sustainable land management strategies that balance socio-economic development with environmental preservation. Although the most recent dataset was limited to 2023, field observations confirmed no significant changes between 2023 and 2025, validating the reliability of the analysis. The findings provide critical insights for policymakers, urban planners, and conservation efforts in mitigating adverse impacts and ensuring sustainable development in Kegalle DSD.

Key words: *Land use change, Remote sensing, Spatial analysis, Sustainable land management*

Introduction

Land occupies a central role in human existence, serving as a fundamental natural resource that underpins survival, livelihoods, and development. Land use, a dynamic process shaped by the interaction between human societies and the environment, encompasses diverse functions such as residential, agricultural, industrial, commercial, recreational, and conservation activities. Land use change the

transformation of land from one function to another is a key driver of environmental change, influencing ecosystems, biodiversity, and natural resources. Processes such as urban expansion, agricultural intensification, industrialization, and deforestation alter ecosystem services including water regulation, soil fertility, biodiversity, and carbon sequestration. These shifts are further shaped by climate change and socio-demographic pressures, such as population growth and migration, which intensify resource strain and habitat fragmentation.

Understanding these dynamics through land use studies is critical for developing sustainable management strategies that balance environmental conservation with socio-economic needs. This study aims to identify land use changes from 1990 to 2023 and predict future changes up to 2033. By examining driving forces, environmental impacts, and management strategies, the research provides insights essential for policymakers, conservation initiatives, and sustainable urban development planning. Ultimately, it contributes to devising solutions that mitigate negative impacts and promote balanced land use practices.

Objectives

The main objective of this research is to identify spatial and temporal patterns of the Land use changes in Kegalle DSD. In addition, other objectives are identifying land use changes in Kegalle DSD from 1990-2023, to predicting future land use changes within the next ten years (2033).

Methodology

The methodology of this study was designed to analyze past land use changes and predict future trends in the Kegalle Divisional Secretariat Division (DSD). The first objective examined land use changes between 1990 and 2023 using secondary data from the Survey Department. Land use maps for both years were prepared through spatial analysis in ArcGIS 10.7, enabling detection of temporal and spatial changes. Ten land use classes were considered: built-up areas, coconut, forest, paddy, rubber, rocky areas, scrub, tea, and water bodies. Area estimates were calculated in square kilometers for each class, and percentage changes were analyzed to assess dynamics over the 33-year period.

The second objective focused on predicting land use changes up to 2033. Transition trends from 1990 to 2023 were modeled using a transition calculation formula to estimate future shifts. The combined outputs provide both a historical perspective of land use dynamics and projected scenarios, offering valuable insights for sustainable land use planning and management.

To full fill second objective, using Land use data and the future land use changes were projected using the following equation:

$$TC = \left[\frac{(E_2 - E_1)}{\Delta y} \times nx \right] + E_2$$

Source: (Javarathne et al., 2023).

TC = Temporal Change

E 1 – Values of the base year

E 2 – Values of the Considering year

nx – Period of prediction

Δy – Difference between the E 1 and E 2 (year gap)

Results and Discussion

Land use changes in the Kegalle Divisional Secretariat Division between 1990 and 2023 reveal significant transformations across various categories. Built-up areas increased markedly from 33.98 sq.km (32.17%) in 1990 to 60.92 sq.km (56.82%) in 2023, indicating rapid urban expansion. In contrast, agricultural lands such as coconut and paddy experienced notable declines, with coconut plantations decreasing from 13.30 sq.km (12.59%) to 2.93 sq.km (2.77%) and paddy fields reducing from 12.98 sq.km (12.29%) to 9.94 sq.km (9.41%). Rubber cultivation also declined from 33.96 sq.km (32.15%) to 26.21 sq.km (24.82%), while forested areas decreased slightly from 2.50 sq.km (2.37%) to 1.68 sq.km (1.59%). Other land cover types, including shrublands, tea plantations, water bodies, and rock areas, similarly experienced reductions. These trends highlight an overall shift from natural and agricultural landscapes toward built-up areas, reflecting increased urbanization and land development pressures over the 33-year period.

Given the emergence of various challenges related to land use, accurately predicting future land use patterns has become a critical task. Future land use predictions are statistically analyzed using trend analysis, field observations, and verification.

According to projections, the built-up area is expected to expand further over the decade from 2023 to 2033, reaching a total of 69 square kilometres. According to the data given to the equation, the negative values represent the depletion of the land use. By 2033, coconut cultivation, which had already declined to just 2.92 square kilometres in 2023, is predicted to disappear entirely from the region. The data presented in the table indicates that by 2033, there will be a significant decline in agricultural activities, including paddy cultivation, rubber cultivation, and tea

cultivation, as well as a rapid reduction in forest cover. Should the current land use patterns persist, this trend may pose substantial risks to water resources. Consequently, it is imperative to implement strategic measures to mitigate these potential challenges.

Land use changes in the Kegalle Divisional Secretariat Division between 1990 and 2023 have been clearly identified, providing essential information for informed planning and development. Forecasting future land use indicates continued expansion of built-up areas, declining agricultural productivity, reduced forest cover, and emerging water resource challenges. These trends highlight the urgent need for sustainable land management strategies that balance development with environmental conservation. Statistical analysis of land use dynamics supports targeted interventions, emphasizing the importance of incorporating local environmental and socio-economic conditions. Promoting public awareness of sustainable land practices is also vital to ensure long-term resource preservation.

Conclusion

Land use in Kegalle DSD has changed significantly from 1990 to 2023, with built-up areas expanding and agricultural and forested lands declining. Projections to 2033 indicate continued urban growth and further loss of agriculture and forest cover. These trends highlight the need for sustainable land management and planning to balance development with environmental conservation and resource protection.

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When Men Rag Men

Masculinity, Sexual Violence, and Institutional Power in Sri Lanka

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Introduction to the Study

Ragging commonly framed in official documents as an initiation ritual or an instance of student misconduct remains a persistent form of institutionalized violence across South Asian higher-education contexts. Legal definitions emphasise disorderly conduct that causes physical or psychological harm (University Grants Commission of India, 1999; Prohibition of Ragging Act No. 20 of 1998). However, such legal framings often neutralise or omit the gendered, sexualised and institutional dynamics that render ragging distinct from ordinary bullying: in many instances ragging functions as a structured performance that reproduces masculine hierarchies, disciplines bodies and masks same-sex violence with rhetoric of tradition and camaraderie (Connell, 2005; Bourdieu, 1990).

Recent empirical research in Sri Lanka confirms the scale and complexity of the problem. Qualitative and survey studies at Sri Lankan universities report high prevalence of ragging in emotional, physical, and sexual forms, with substantial psychological harm and institutional under-response (Wickramasinghe et al., 2022; Wickramasinghe, 2023). System-wide inquiries and commissioned reports (including university and UNICEF-supported studies) similarly highlight ragging's overlap with sexual and gender-based violence (SGBV) and identify institutional failures in prevention, reporting, and survivor support (UNICEF/UGC system review). These investigations underline that ragging is both a campus subculture and a systemic problem with consequences for student wellbeing, retention, and public trust in higher education.

The persistence of ragging must be read through broader social and political structures. Postcolonial institutional legacies whereby colonial schooling and corps-style regimentation normalized disciplinary techniques and hierarchical social ordering help explain why coercive initiation rituals are routinised inside universities and paramilitary training institutions (Chatterjee, 1993; Foucault, 1977). Ragging, therefore, operates at the intersection of institutional discipline, hegemonic masculinity, and symbolic violence: it is a technique for producing compliant bodies while staging masculinities through humiliation and enforced conformity (Bourdieu, 1990; Connell, 2005).

Scholars from gender and queer studies emphasise how ragging's rituals often carry homoerotic undertones and that violence can be a mechanism to disavow

same-sex desire while simultaneously policing masculine boundaries (Sedgwick, 1985; Jayawardena & De Alwis, 2002). This analytic lens helps explain why male victimhood is frequently invisible: cultural taboos around male weakness, the stigma attached to same-sex victimisation, and legal frameworks that inadequately protect LGBTIQ+ survivors combine to silence disclosure and constrain institutional redress (Spivak, 1988; Outright International mapping of legal protections).

Contemporary scholarship on SGBV and men's victimisation in South Asia further problematises assumptions that sexual violence is predominantly gendered in one direction. Reviews and empirical studies show an emerging research consensus that violence against men (including sexual violence) is under-reported and under-researched in South Asia, creating policy blind spots that hamper survivor support and legal protection (regional reviews 2023–2024). At the national level, recent legal and policy analyses call for legal empowerment, improved access to justice, and targeted survivor services recommendations that, if implemented, could improve responses to ragging when it crosses into sexual and gender-based violence (Handy, 2024).

Taken together, theoretical and empirical literatures indicate that ragging should not be understood as a private rite of passage or merely a campus nuisance. Rather, it is an institutional practice that: (a) reproduces hierarchical masculinities through public ritual; (b) enacts symbolic and sexualised violence that often goes unrecorded; and (c) persists because institutions normalise, minimise or invisibilise such practices even while espousing formal anti-ragging policies. Building on this synthesis, this research foregrounds male vulnerability, intersectional inequalities (class, caste, ethnicity, language), and the postcolonial logics that sustain ragging across universities, police training centres, and workplaces in Sri Lanka.

Aim, objectives, and research questions

Aim

To investigate how ragging operates as a gendered and sexualised modality of institutional power in Sri Lanka, and to analyse the mechanisms by which it reproduces hegemonic masculinity, silences male vulnerability, and evades institutional accountability.

Objectives

1. To document the forms and prevalence of ragging across universities, police training centres, and workplaces in Sri Lanka, with emphasis on sexualised practices and psychological consequences.
2. To analyse how institutional texts, legal instruments, and public narratives frame ragging, and how these framings obscure or silence male victimhood.

3. To interpret lived experiences of ragging through the theoretical lenses of hegemonic masculinity, symbolic violence, and postcolonial discipline.

Research Questions

1. In what forms does ragging manifest across Sri Lankan institutions, and how prevalent are its sexualised and psychologically harmful practices?
2. How do institutional policies, laws, and public discourses frame ragging, and what mechanisms enable its persistence despite formal prohibition?
3. How do processes of hegemonic masculinity and symbolic violence shape both the enactment of ragging and the silence around male victimisation?

Methods and Methodology

This study adopts a qualitative and interpretive methodology, grounded in postcolonial theory, gender studies, and queer theory, to interrogate the sexualised and gendered dimensions of ragging in Sri Lanka. Rather than approaching ragging as a mere criminal or psychological phenomenon, the research positions it as a cultural practice embedded within institutional hierarchies of power and masculinity.

Research Approach

The paper employs a multi-method qualitative approach, combining:

1. Ethnographic insights – drawing from field observations, informal conversations with students, and accounts gathered during teaching and supervision in Sri Lankan universities.
2. Discourse analysis – examining university regulations, anti-ragging legislation, and policy documents to identify how institutional language frames ragging while silencing its sexualised and gendered dimensions.
3. Textual and media analysis – analysing newspaper reports, court cases, and public debates that shape perceptions of ragging as either “tradition,” “discipline,” or “violence.”
4. Secondary literature review – integrating scholarship on masculinity, symbolic violence, and postcolonial power structures (Bourdieu, 1990; Connell, 2005; Foucault, 1977; Sedgwick, 1985).

Methodological Positioning

The study is interpretivist and critical, guided by the following commitments:

- Postcolonial critique: situating ragging as a continuation of colonial disciplining practices that normalised the regulation of native bodies.
- Feminist and queer standpoint: recognising male vulnerability, same-sex violence, and homosocial desire as central but often ignored dimensions of ragging.

- Intersectional analysis: examining how caste, class, and linguistic identities intersect with masculinity in shaping ragging practices.

Data Sources and Limitations

Primary ethnographic reflections were supplemented with empirical studies (Wickramasinghe, Seneviratne, and Rajapaksha, 2022; Perera, 2018; Fernando, 2020). Since ragging is a sensitive and often hidden practice, access to first-hand accounts was limited. Instead, this study offers a critical synthesis of existing data and theoretical interpretation to reveal the sexualised and symbolic dimensions of ragging often left unspoken in legal and institutional discourses.

Ethical Considerations

Given the traumatic nature of ragging, this study adopts a stance of critical empathy: refusing to sensationalise suffering while foregrounding the voices, silences, and vulnerabilities of male students. Sensitive descriptions are treated with academic responsibility, prioritising structural critique over voyeuristic detail.

Research Findings and Discussion

Power, Masculinity, and the Sexualized Dimensions of Ragging

Ragging in Sri Lankan universities operates within entrenched hierarchies of power, often functioning as a performance of hegemonic masculinity and institutional discipline. Bourdieu's (1990) concept of symbolic violence explains how such rituals reproduce authority through coercive yet normalised means. Senior students impose dominance on juniors through public humiliation, verbal abuse, and acts of physical and psychological torture, often framed as "tradition" or "brotherhood."

Connell's (2005) theory of hegemonic masculinity is particularly relevant. Ragging forces junior men to endure painful or degrading tasks to assert masculine credentials, discouraging emotional expression and reinforcing heteronormative ideals. Foucault's (1977) concept of discipline and surveillance further illuminates how institutions regulate bodies. Many of these disciplinary practices carry homoerotic undertones, which Sedgwick (1985) interprets as expressions of disavowed same-sex intimacy.

Discipline, Desire, and Disgust: Postcolonial Legacies and Institutional Hierarchies

Chatterjee (1993) highlights how colonial universities were designed to discipline native bodies, and ragging can be seen as a continuation of this legacy. Perera (2018) argues that ragging serves as a surrogate rite of passage for insecure young men, often stratified by caste and class. Silva (2004) demonstrates how ragging encodes social hierarchies under the guise of tradition. Spivak (1988, p. 294) famously states, "The institution speaks the language of rights, but the body experiences pain," capturing the dissonance between rhetoric and lived experience.

Jayawardena and De Alwis (2002) further argue that ritualised violence is aestheticised as “fun” or “brotherhood,” sustaining cycles of trauma.

Empirical Evidence and Psychological Consequences

Despite its criminalization, ragging remains widespread. Wickramasinghe, Seneviratne, and Rajapaksha (2022) found that 59% of students at the University of Jaffna experienced ragging, with 13% reporting sexually abusive incidents. These often include public nudity, coerced masturbation, and non-consensual physical contact, leading to depression, anxiety, and symptoms of post-traumatic stress. Cultural taboos surrounding male weakness and same-sex victimisation often prevent victims from seeking support.

Conclusion

Ragging in Sri Lankan universities is not a harmless tradition but a system of gendered violence, institutional discipline, and postcolonial hierarchy. It targets male students through practices that blend humiliation, dominance, and repressed desire, reinforcing hegemonic masculinity and institutional control. Addressing this requires stricter enforcement as well as a rethinking of how masculinity, power, and vulnerability are understood in educational institutions.

Keywords: *Ragging, Masculinity, Hegemonic power, Symbolic violence, Sri Lanka, higher education, Male vulnerability, Postcolonial theory*

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Promoting Sri Lankan Geographical Indications for Socio-economic Development: Insights from the European Union and India

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Abstract

A recent study by the European Union illuminates that products sold under a GI are able to achieve a clear premium, with the sales value being double on average in comparison to similar products sold without certification. A geographical Indications (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. Undoubtedly, a GI represents an origin-link product which is a treasure for an economy. The aim of this research is to explore the value of identifying potential GIs in Sri Lanka for socio-economic development through the lenses of European Union and Indian GI regime. It has been emphasized by IP scholars, members of the legal fraternity and local business leaders in Sri Lanka that identifying potential GIs in Sri Lanka such as Ceylon spices, Ceylon Sapphire, Ruhunu Curd, Dumbara Mats, Beeralu Lace, Moratuwa furniture and Ambalangoda Masks helps protect traditional products, boost rural incomes, promote exports, and preserve cultural heritage, making it a key driver of sustainable socio-economic development. Findings of this research reveal that even though a GI registration system has been introduced by Intellectual Property (Amendment) Act, No. 08 of 2022, only a few GI applications have been received for registration under the newly established GI registry in the National Intellectual Property Office. However, there is a strong case for Sri Lanka to create a legal environment that identifies potential GIs and afford protection for them in order to facilitate socio-economic development, arguably there is a compelling need for Sri Lankan GIs to tap the full potentials of Sri Lankan GIs. In terms of the implication of this research, the researcher is of the view that this research will enlighten legal and policy reform and the need for raising awareness among relevant stakeholders. In this regard, live experiences from the European Union and India will provide the necessary impetus for Sri Lanka. This research is library-based and carried out by employing both doctrinal and comparative legal research methods.

Keywords: *Geographical Indications, Socio-economic development, GI registration*

Introduction

Over the past few decades, geographical indications have become important intellectual assets for various goods. A geographical Indication (GI) represents a powerful tool for linking products to a particular geographical region. From a legal standpoint, GIs are a form of intellectual property (IP) right used to indicate that a

product has a specific geographical origin and possesses a certain reputation, qualities, or characteristics due to its place of origin. Scholars have often referred to GIs as ‘the Sleeping Beauty of the IP world.’ They have been around for a long time, but recent years have seen a significant awakening to their business value. Particularly in developing countries, GIs are associated with social and cultural values. The premium price generated by GIs supports rural livelihoods and helps preserve centuries-old traditional cultural heritage. Sri Lanka, a country rich with a large number of potential GIs and thus has a strong potential to uplift its socio-economic development. In this regard, insights and live experience from matured GI system in European Union as well as empirical examples from India will pave the way to reshape Sri Lankan GI landscape. As a general matter, registered GI status provides legal protection of a specific nature, preventing misuse, imitation, and evocation by products which do not meet the requirements defined in the product specification for the GI. From an economic perspective, due to its specific geographical origin and associated qualities, a premium price is paid for such products while the price of a normal good is determined by supply and demand in the market. Against this background, it is necessary to explore how best Sri Lanka can reap benefits from its potential GIs facilitating global market access and export opportunities.

Methodology

This research follows the qualitative research approach and is carried out as a library-based critical review of literature. According to Terry Hutchinson, the research method is assumed knowledge within the discipline, part of the grab-bag of skills associated with thinking like a lawyer. In terms of research methods, the researcher extensively utilizes primary and secondary legal sources; namely, international treaty provisions, statutes, case law, textbooks, journal articles and online materials. Most importantly, this study dwells within the doctrinal or black letter (dogmatic) research methodology which is coupled with comparative legal analysis. The doctrinal legal research involves examination of the existing law on the topic under review. Therefore, this research carefully analyses both the relevant case law together with detailed consideration of relevant statute law. In comparative legal research, researcher finds out what the law is in other countries (in this case the European Union and India) and considers whether it can be drawn upon with or without modification. Since the EU is considered as one of the most developed legal regimes, the researcher believes legislative examples and case law emanating from Europe can serve a model for Sri Lanka. Live experience emanating from India, through more than 500 strategic GI use, the country has turned local traditions into global brands, offering valuable lessons for Sri Lanka’s economic and cultural advancement.

Results and Discussion

As has been already stated, a GI is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. A European study in 2020 shows that products sold under a GI are able to achieve a clear premium, with the sales value being double on average in comparison to similar products sold without certification. In Sri Lanka, potential GIs such as Ceylon spices, Ceylon Sapphire, Ruhunu Curd, Dumbara Mats, Beeralu Lace, Moratuwa Furniture and Ambalangoda Masks helps protect traditional products, boost rural incomes, promote exports, and preserve cultural heritage, making it a key driver of sustainable socio-economic development. In fact, the country has already protected Ceylon cinnamon and Ceylon tea in the global market through the certification mark system under the IP Act. Even though a GI registration system has been introduced by Intellectual Property (Amendment) Act, No. 08 of 2022, it is unsatisfactory that only the least number of GI applications have been submitted for registration so far as per the information obtained from the National Intellectual Property Office (NIPO) of Sri Lanka. These potential GIs generally lie with regional producers and the added value generated by the GI accrues therefore to such producers therein. More strikingly, even though the GI protection cannot be extended to the service sector, as spin-off effects that GI products contribute to the development of tourism in Sri Lanka. In other words, Sri Lankan GI can have a secondary impact on tourism promotion through ‘Ceylon Tea Trails’ and ‘Cinnamon Trails.’

Insights from the European Union

The European Union (EU) has created one of the most effective Geographical Indication (GI) protection systems globally. This system is mainly governed by Regulation (EU) 2024/1143 of the European Parliament and of the Council of 11 April 2024 on geographical indications. A careful perusal of the new Regulation reveals that consolidation of much of the existing EU legislation on the protection of GIs for agrifood products, wines and spirits into a single text can considerably improve the EU’s protection system for GI’s. This legal framework helps recognize and protect products whose quality, reputation, or other traits are closely tied to a specific geographic origin. In this way, the EU supports GIs as important tools for socio-economic development. Most importantly, the EU has clearly shown that the use of GI tags has a clear economic benefit for producers in terms of marketing and increase of sales thanks to high quality and reputation of these products, and the willingness of consumers to pay to get the authentic product. In fact, a study in 2020 found that the sales value of a product with a protected name is on average double than for similar products without a certification. The EU recognizes Protected Designation of Origin (PDO) which accords status to a food product which is produced entirely within a defined geographical area using recognized skills and

ingredients from the region, and which is linked to its geographical origin. Such PDOs include many cheeses, meat products, olive oils, fruits and vegetables, and, of course, many wines. At the same time, the EU accords protection for Protected Geographical Indication (PGI) for a product linked by its quality and reputation to a region in which at least one stage of production took place. Such PGIs include beers, meat, and also bakery products and fish. Remarkably, the European Union has paid attention to achieving UN sustainable development goals (SDGs) through protection of GIs.

Insights from India

A deep dive into Indian legal landscape, the Geographical Indications of Goods (Registration and Protection) Act 1999 has introduced to protect and promote products with a unique geographical origin. Indian experience shows that GIs play a crucial role in not only safeguarding indigenous products but also in driving economic growth at the grassroots level. Indian GI protection system has helped small-scale farmers, artisans, and indigenous communities sell goods specific to their regions while protecting their rights. Products like Darjeeling Tea, Mysore Silk, Pochampally Ikat, and Kandhamal Haldi provide livelihoods for thousands of rural producers. As is evident from the recent scholarship, GI protection allows these communities to get better prices in the market, avoid exploitation, and keep control over their traditional methods. India has explored GI-link tourism promotion and branding of regions and improve their visibility in national and international markets by using GI tags. Fascinatingly, States like Tamil Nadu, Karnataka, and Kerala work to promote GI tourism around their registered products thereby connecting local development plans to GI clusters.

Conclusions

In conclusion, it may be prudent to argue that a GI plays a crucial role in driving economic growth, preserving cultural heritage, and empowering local communities in Sri Lanka. Nevertheless, Sri Lanka as a developing country has seen a number of roadblocks in promoting its GIs. As discussed above, live experience emanating from Europe and India can be emulated in addressing challenges associated with the current GI system in Sri Lanka and more forward steps are essential to fully realize their potential of Sri Lankan GIs for sustainable and inclusive economic development.

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Work ethics in the administrative system of the school education sector in Sri Lanka

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Abstract

The implementation of a strong work ethic in the Sri Lankan school administration system has the potential to create a sustainable and positive school educational environment. In order to implement a work ethic in school administration as in other fields, it is essential to have a system of work ethics inherent to it. Accordingly, through the actions of education administrators in accordance with that work ethic, it is possible to create a successful school system that is free from bias and universal, as well as a future generation.

Key words: *Ethics, work ethics, Administrative system, School sector, School administration in Sri Lanka.*

Introduction

A workplace is an environment where people from different backgrounds who are not the same come together to work towards a specific goal or set of goals. Work ethics in any work environment are based on preventing people with different ideas from clashing with each other, achieving goals through a peaceful environment free from conflict, and providing the highest level of service to the customer or client. Work ethics that apply anywhere in an organization, institution, team, or field are created and followed by people. However, in some cases, work ethics can be disrupted due to internal emotional problems within employees and external conflicts between employees and their colleagues. Such a breakdown in work ethics affects the efficiency of the organization or workplace. Problems arising from violations of work ethics in a workplace directly affect the administration of the workplace.

The functions of managing an institution, organization, or any type of work environment are performed by its administration. Administration is a complex industry. An effective administrative system is essential to properly govern a country, provide relief to its citizens and create a better life and environment for building a strong presence in the world. Administration is the process of managing and coordinating the resources, people and activities of an organization and it seeks to achieve all goals and objectives efficiently and effectively through administration. The administration thus carried out operates at various levels in various fields and in various contexts. The education sector is a very important and prominent sector for a country that operates in such a way. In most countries of the world, the administration

of education is carried out through state intervention. The administration of school education in Sri Lanka is also carried out effectively through government intervention through school

Education administrators appointed at various levels. Thus, the basic education provided to a child through school occupies a prominent place in the topic of education. The Constitution of Sri Lanka affirms that school education is a fundamental right and compulsory education from the age of 5 to 14. Education in Sri Lanka is provided free of charge by the government to children, from the basic education provided by schools to the university level.

Education plays an important role in human life. Everyone learns at all times in life. Education is a major function of a country. It is a stage of acquiring knowledge, skills and attitudes. If one wants to get a better education, after the primary socialization provided by the family, it is provided by schools which is known as secondary socialization. However, to create an effective learning environment in a school, there must be a sustainable administrative system in the education sector. Proper administration is essential in this education system that determines the future of a state and the entire society. If proper administration is not implemented in education, it will have a serious impact on the future as well as the present of the entire society. The whole meaning of educational administration is to create and maintain an educational framework that supports and enhances learning.

To create a successful and productive learning environment, the school education administration system that drives it must also be implemented very accurately and correctly. For this, a meaningful service can be provided through the implementation of an appropriate and significant code of ethics within the school education administration. However, at present, instead of providing a positive and effective service, the Sri Lankan school education administration is excessively influencing the existing code of ethics through inefficiency, politicization and abnormal administration. However, although research has been conducted worldwide under themes such as "Educational Administration" (Erickson, 1979), "Internationalization of Educational Administration" (Paige and Mestenhorsner, 1999), "Ethics of Educational Administration" (Rizvi, 2000), "Administrative Ethics" (Reimer, 2000), no specific study has yet been presented that is suitable for the functioning of the Sri Lankan school education administration and suitable for Sri Lankan society, using the knowledge necessary to repair the situations resulting from this moral breakdown. Therefore, the aim of creating a successful and productive learning environment based on the positive impact of the proper implementation of the work ethics to be implemented in the Sri Lankan school education administration will be successfully achieved through this independent research.

Literature review

John S. Mackenzie (1901) has written 'A Manual of Ethics'. This handbook is intended for private students and university students in London to use. This book is a great support in understanding ethics. There are some definitions of ethics in this book. There is a famous book 'The Republic' was written by Plato but this book translated by Benjamin Jowell. This book provides some details about the education and the public administration in Greek. According to this book Plato has discussed how to be the education and the state in his world of forms. From this book, lots of details about education can be collected. Not only that but also some details of social context can be collected. W.I. Siriweera (2002) has written a book 'History of Sri Lanka'. This is a recent book. This book provides the economic, social, political, and cultural history of Sri Lanka from the earliest times up to the sixteenth century. This book shows the nature of the ancient Sri Lankan era.

Ven. Dr. Walpola Rahula (1956) has written 'History of Buddhism in Ceylon'. This book provides the history of Buddhism in Ceylon from the 3rd century BC up to the 10th century AD. This book provides lots of details in various fields such as social, administration, education, religious culture, etc. Ancient education and administrative system in Sri Lanka show properly in this book. 'Education for All' was written by Delaine Weerakkody (2006). This book is also a recent book. This book provides some aspects of education and the current situation of education. The author of this book focuses on the main aspects of Sri Lankan education such as a brief review of education, critical thinking in education, elitism in education, the role of a teacher, etc. Among them, more details of the situation of Sri Lankan education can be collected. 'Administrative Technology and the School Executive' was written by Stephen J. Knezevich from the Associate Secretary of the American Association of School Administrators (1969). This provides information on how to apply technology to the administrative system in schools to solve some problems of school administration. Accordingly, problems of the schools, administration of the schools, applying technology to school administration, and the benefits of applying technology to administration in schools are considered through this study. Though this focuses on the situation of technology in school administration and the benefits of using technology in school administration,

Dr. Shefali Pandya (2012) has written 'Foundations of School Effectiveness'. This book shows the overall environment of a school, administrative system and learning outcomes. 'Education Administration' has written Dr. B. Shouriamma (2012). This book provides the details and some key elements of educational administration and it doesn't mention about levels of educational administration properly. 'Educating the Sri Lankan for the New Era' which was written by C. Kariyawasam (2021) and 'Facets of Sri Lankan Education' which was written by S. Sandarasegaram and M. Karunanithy provide details about current situation of Sri

Lankan education including schooling, higher studies and professionalism education. According to these there is a better explanation about the current era of Sri Lankan education and difficulties which have to be faced in it.

Research Methodology

This research is critical, conceptual and philosophical analysis, and it is based on a library research and both physical and online methods to conduct an in-depth investigation into the work ethic in the administrative system of the school education sector in Sri Lanka, the systematic shaping of the school educational administration system in Sri Lanka, the changes in the learning environment through effective school educational administration in Sri Lanka, and the establishment of an effective learning environment through a strong work ethic. This research is not empirical. It is normative. It is impossible to consider field-based data collection or attitude measurement for this research. However, the integrity, responsibilities and norms of the school educational administration system are considered here.

Based on the library research method, the primary sources used in collecting data both physically and online are the administrative guidelines of the Ministry of Education of Sri Lanka, government publications, books by key thinkers on public sector ethics, such as 'The Republic'. The secondary sources used for this research are previous research, scholarly articles and books containing information on the Sri Lankan education sector, administration, and overviews on ethics and work ethics. In this independent research below methodological techniques are going to use.

Conceptual Analysis

This research starts with describing the concept such as work ethics, the ethical environment, the nature of the school educational administration and education sector, and the implementation of work ethics in the school educational administration in Sri Lanka. These are used to describe how the globally prevailing norms operate within the Sri Lankan tradition.

Normative Evaluation

After describing the basic concepts, it discusses whether work ethics are implemented in the school educational administrative system in Sri Lanka. Globally, the implementation of work ethics in any field has become a norm. a philosophical investigation is conducted into whether the same norm also exists in the field of the school educational administration in Sri Lanka. In addition to that, it also examines ethical standards in the school educational administration in Sri Lanka.

Reports and Policy Interpretation

It is intended to use the administrative code of conduct, philosophical analysis of officials' policy, philosophical analysis of educational policy, etc.

History and Cultural Reflection

This research enhances knowledge by mentioning past administration and cultural relations. Not only that, but also mentioning the historical functioning of the key concepts adds very high quality to this research. The independent research into historical information on work ethics, the Sri Lankan school

education system, Sri Lankan school educational administration, etc., can add a high quality to the research.

Through this research methodology, efforts have been made to critically evaluate and obtain the most appropriate and successful answer to this research problem.

Expected Outcome

Just as ethics create a good person, work ethics create a good employee. It is on this basis that there is an imperative need to implement work ethics in the administrative system of the school education sector in Sri Lanka. The implementation of a strong work ethic can show positive and strong progress in the educational administration system. By properly implementing ethics in this school education administration, a positive and productive educational environment can be created in the schools of Sri Lanka. On the other hand, productive education also builds the ability to seize the opportunities in the current global education landscape and conquer the world through them. A good example of this is the isolation implemented in Sri Lanka during the Covid-19 virus, a global pandemic that the entire world had to face in the past, due to the isolation implemented in Sri Lanka, everyone had to stay at home and do their work online. Sri Lankan school education was also launched online across the island. At that time, while providing a new experience to the Sri Lankan people through online education, school administrators, led by teachers, tried to act according to work ethics and spread work ethics to prevent cybercrimes, personal data theft, online robberies, and other unnecessary addictions among children, etc., according to research reports and media reports. There, by providing teachers with proper instructions on how to provide online education, providing teachers with separate training for it, educating parents including children about online education and drawing attention to its dark aspects, and imposing penalties on all those, including teachers, who engage in illegal activities through online education, work ethics were implemented very effectively in school education. As mentioned above, in the various problems that arise in the school educational environment such as the inability to provide specific education on time, difficulties in handling teachers and children in a disciplined manner, and providing education

equally to all, an education administration that operates without bias for all sectors and that complies with norms and regulations is essential. Accordingly, this independent research hopes to build a positive and productive school learning environment in Sri Lanka through an education administration that operates according to work ethics without any bias.

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Economic Status of Households with Heart Disease and Diabetes Patients in Buttala Divisional Secretariat Division in Monaragala District

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Abstract

Non-communicable diseases (NCDs), particularly diabetes and heart disease, are increasingly prevalent worldwide and pose significant challenges to socio-economic development, especially in low- and middle-income countries. In Sri Lanka, these chronic diseases have become major contributors to household economic instability, particularly in rural areas. This study investigates the economic impact of chronic diseases on rural households in the Buttala Divisional Secretariat Division (DSD) of the Monaragala District. Using primary data collected through structured questionnaires administered in Sinhala, the study examines the relationship between chronic illness, income levels, and household well-being. The results reveal that households with members suffering from diabetes or heart disease experience significant financial strain, with ~28% facing economic instability and ~30% of affected households earning between LKR 30,000 and 40,000 per month. These findings underscore the urgent need for targeted public health interventions and social support mechanisms to mitigate the economic vulnerability of affected households. Keywords: Economic Development, Rural Households, Heart Disease, Diabetes, Non-Communicable Diseases.

Introduction to the Study

Non-communicable diseases (NCDs) such as diabetes and heart disease have emerged as leading causes of morbidity and mortality globally, exerting profound economic and social consequences on households and nations alike (Engelgau et al., 2005). Developing countries, including Sri Lanka, face the dual burden of communicable and chronic diseases, which significantly affect economic productivity and household welfare. In Sri Lanka, the prevalence of chronic diseases has risen steadily, particularly among adults aged 30–60 years. According to national survey data, households with NCD patients incur significantly higher out-of-pocket health expenditures. For example, households with chronic NCDs such as heart disease, hypertension, cancer, kidney disease or diabetes experienced significantly greater economic burden than matched controls (Pallegedara, 2018). This study focuses on rural households in the Buttala DSD of the Monaragala District a region that reflects both the economic vulnerability and limited healthcare accessibility characteristic of rural Sri Lanka. The research aims to assess how chronic diseases

affect household economic status, income distribution, and livelihood stability in this region.

Research Objectives

- To examine the socio-economic impact of diabetes and heart disease on rural households in Buttala DSD.
- To identify the income distribution patterns among households with chronic disease patients.
- To assess the relationship between health expenditures and household economic stability.
- To propose policy recommendations for improving household resilience and healthcare access.

Methods and Methodology

This study adopts a descriptive and quantitative research design. Primary data were collected through a structured questionnaire distributed to patients diagnosed with diabetes or heart disease in the Buttala DSD. The questionnaire, administered in Sinhala, gathered data on demographic variables, income levels, employment, healthcare access, and household expenditures. A convenience sampling method was used, drawing from a total population of 68,739 residents in the DSD. A 5% sample (30 respondents) was selected among affected individuals aged between 18 and 60 years. Respondents were classified by income and occupation, focusing on households where the patient was the primary income earner. Data were analyzed using Microsoft Excel, applying descriptive statistical techniques to summarise and interpret results. Ethical considerations were maintained throughout the study by ensuring voluntary participation and data confidentiality.

Research Findings

The findings reveal that a majority (30%) of patients live in households earning between LKR 30,000 and 40,000 per month. Most of these patients are the main income earners, and a significant proportion are men suffering from heart disease. Approximately 63% of patients receive treatment from private hospitals, while 37% rely on public healthcare services. Despite the rural setting, the preference for private healthcare is driven by perceptions of higher quality medicine and services. However, 37% of households are unable to afford such expenses due to economic hardship. About 28% of households reported financial instability, primarily linked to healthcare expenditures, medication costs, and educational expenses for children. The majority of financially struggling households rely on agriculture or private-sector employment. Furthermore, households affected by lifestyle-related factors such as alcohol consumption and smoking—showed particularly poor

economic outcomes. Age and gender patterns also emerged: chronic disease prevalence was higher among individuals aged 50–60, and all female patients earning less than LKR 20,000 monthly were diabetic, including widows.

Discussion

The findings illustrate that chronic diseases impose multidimensional burdens on rural households, extending beyond medical expenses to affect labour productivity, savings, and overall quality of life. Households with chronic disease patients often allocate a large proportion of their income to healthcare, limiting resources for other essential needs such as education and nutrition. This aligns with evidence from Sri Lanka showing that households affected by NCDs incur higher out-of-pocket expenditures and face greater economic strain (Pallegedara, 2018). The dependence on private healthcare services, even among low-income rural families, highlights gaps in the accessibility and perceived reliability of public health institutions (Gamage et al., 2024). Moreover, the loss of work capacity among main earners exacerbates household vulnerability, as income streams diminish while medical costs rise. The study supports global evidence that chronic illnesses, particularly diabetes and heart disease, can trap households in cycles of poverty, especially in developing regions (Engelgau et al., Year).

Conclusion

Chronic diseases such as diabetes and heart disease significantly undermine the economic stability of rural households in the Buttala DSD, Monaragala District. The results reveal clear links between disease prevalence, income level, and household economic performance. Addressing these challenges requires a dual approach enhancing healthcare access and affordability while implementing socio-economic support systems for affected families. Policymakers should prioritise rural health education, early detection programmes, and financial assistance schemes to mitigate the economic consequences of chronic diseases and promote equitable rural development.

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Assessment of Solid Waste Generation and Disposal Practices in the Wattala Urban Council Area

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Abstract

Waste is any substance discarded after primary use, or is worthless, defective, and of no use. The main challenge of waste management poses a significant social, environmental, and economic dilemma globally. Despite technological advancements and proposed solutions by developed nations, many developing countries, including Sri Lanka, grapple with inadequate waste management infrastructure, resulting in substantial waste accumulation. In Sri Lanka, each person generates 0.64 kilograms of waste daily, totaling an estimated 4.8 billion kilograms annually. Urbanization exacerbates the issue, with informal waste management practices prevalent in rapidly expanding urban areas. This study aims to evaluate and identify the major Generating Methods in the Wattala Urban Council Area. Through a sample survey of 75 households categorized by income levels, low, middle, and high, data on both degradable and non-degradable waste generation were collected. The findings reveal that middle-income households produce the highest volume of degradable waste; The average amount is 11.6 kg per week, and it is 2kg higher than other income levels. While high-income households generate the most non-degradable waste, averaging 14.55kg per week. Additionally, a notable quantity of waste is evident in low-income households. The cumulative amount of waste generated in this area over one week totals 1395.8kg. According to this research, the major methods of waste generation have been identified.

Keywords – *Waste management, Sustainable waste management, Household Solid Waste Generation, Urbanization*

Introduction

Waste is defined as unwanted and unusable materials and is regarded as a substance which is of no use. More than a hundred different types of raw materials are combined with energy to make different products, and waste is generated in these products. This process is a linear economic model. This process can be described as throwing away the use of the product. Failure to understand this concept correctly leads to the generation of waste. Also, a huge amount of waste is generated in ten seconds in the world, and it is also known as environmental abuse.

Sri Lanka generates 7,000 MT of solid waste per day, with the Western Province accounting for nearly 60% of waste generation. Each person generates an average of

1- 0.4kg of waste per day. According to the Waste Management Authority and the Central Environmental Authority, only half of the waste generated is collected. (EFL Admin, 2018)

Wattala urban council area, which is located in Gampaha District, Sri Lanka, is one of the urbanized and highly populated areas. This research aims to evaluate household waste generation and identify the key waste generation methods to address the existing high garbage generation and disposal problems in the Wattala Urban Council area. The people's awareness should be raised about the economic benefits of proper waste management, and sustainable strategies should be introduced to reduce accumulation and manage waste effectively. This research emphasizes the importance of creating a super clean area of non-garbage and becoming a resource that is given away from the house.

Several studies on Waste management have been conducted in this area, but no researchers have evaluated the Household Solid Waste Generation and identified the major methods of waste generated in this area. This research fills that gap and introduces suitable solutions to mitigate urban waste generation.

Methods and Methodology

This study focuses on the Wattala Urban Council (7 0'9.0468" N and 79 54' 35.6148" E.), within the jurisdiction of the 06 GND's domains of the Wattala Regional Secretariat Division, in Gampaha District. "Covering an area of 9.842 square kilometers (293 hectares), Wattala has a population of 31,854 and a total of 6797 houses" (Resource profile, 2022).

For this research, the total population is derived from the 7,340 houses overseen by the six Grama Niladari officers within the study area. Given its suburban nature, implementing a strategic sampling method is necessary for study efficiency. Initially, the population is segmented into three primary income-based categories using Judgment sampling: low-income, middle-income, and high-income. This classification relies on the households' monthly income, utilizing data they provided in alignment with World Bank income classifications.

Income Classification by the World Bank is Low income <1,085\$, Lower middle income 1,085\$ – 4,255\$, Upper middle income 4,256\$ – 13,205\$. And high income >13,205\$. (July 1, 2022, for FY23 new (World Bank Report, 2022-2023). As this study is quantitative, data collection will conclude once an equilibrium is achieved in the data gathered from households within the same income brackets using a questionnaire. Thus, for this study, 25 houses from each of the three income levels have been selected with random sampling, amounting to a comprehensive sample of 75 houses.

The formula to calculate the amount of household waste generation can vary based on the specifics of the study and the data available.

$$\text{Total Waste Generated} = \Sigma(h \times w)$$

Source: (Waste Generation Formula - Google Search, n.d.)

- h = Number of Households in the area
- w = Average Waste Generation Rate per Household

Results and Discussion

The waste generated in the sampled households was measured using a digital scale, and the following data were obtained.

- Total Degradable waste generated = 768.0 kg
- Total non-degradable waste generated = 627.8 kg
- Total generation of waste in the area (weekly) = 1395.8 kg (1.4 MT)

Considering the entire sample utilized, the cumulative amount of waste generated within this study area over one-week totals 1395.8 kg.

According to the study, degradable waste is highest among middle-income households, averaging 11.6 kg per week, while low- and high-income households generate slightly less at 9.7 and 9.4 kg respectively. Low-income households produce the least at 7.7 kg, followed by middle-income households at 9.9 kg, and high-income households generate the most at 14.6 kg weekly. This suggests that as income levels rise, households tend to produce more non-degradable waste, instead of degradable waste remaining relatively stable or even declining. Based on the analysis, Middle-income households have the highest average amount of Degradable waste collected weekly, totaling 11.6 kg. Non-degradable waste, in contrast to Degradable waste, represents a higher overall value across all income categories, averaging 14.6 kg per week. Overall, low-income households contribute the highest proportion of degradable waste, while middle- and high-income households show more variation across waste types.

The composition of non-degradable waste varies across income groups. High-income households contribute the most to plastic and polythene waste, both at 26%, compared to lower percentages in low- and middle-income households. Paper and cardboard waste also rises significantly with income, increasing from 14% in low-income to 24% in high-income households. Overall, higher-income households tend to generate more packaging-related waste, like plastics and paper, while lower-income households produce a more varied mix of materials. The frequency of meal preparation, one of the main sources of degradable waste, shows that both low- and high-income households have 24% preparing meals once a day. Most middle-income households (72%) prepare meals twice a day, compared to 60% in low-income and

52% in high-income groups. In terms of bringing degradable materials into the home, low-income households do so more frequently, with 40% bringing them daily, while higher-income households tend to bring such materials less often, mostly once every two weeks or monthly. A similar trend appears for non-degradable materials: 40% of low-income households bring them in daily, while 68% of high-income households bring them only once a month.

For degradable materials, low-income households mainly use separate bags (52%), while middle-income households use one bag more often. High-income households are more likely to carry baskets. For non-degradable, low-income households show higher reliance on baskets (60%).

According to the data analysis, middle-income households presented the highest variability in waste generation, with a standard deviation of 11.39 kg. Low-income households follow with a slightly lower variation at 10.20 kg. In contrast, high-income households display the most consistent waste generation patterns, with a standard deviation of only 6.48 kg. This suggests that waste output in high-income households is more predictable, while middle- and low-income households exhibit greater fluctuation in their weekly waste production.

Based on the data presented in the table, the most substantial quantity, amounting to 11.39kg, is attributed to households in the middle-income level, surpassing by 1 kg the waste produced by low-income households and lagging high-income households by a margin of 5 kg. Consequently, it can be inferred that, overall, waste generation in middle-income households within this region exceeds that of households belonging to the other two income levels.

The key ways of waste generation in the study area were identified through the research. Those are Daily cooking at home, disposing of the food liquid left after consumption as garbage. The Degradable items, such as vegetables, fruits, and meat, brought to the homes are not of proper quality or are not consumed for a long time and are not properly stored, so they are thrown away as garbage. From time to time, the collection of garbage increases due to the removal of the packaging of the goods while purchasing household items. The increase in shopping bags used to buy goods at home has also increased the garbage generated.

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