



ECOSOPHY STUDY ON ENVIRONMENTAL POLLUTION BY WASTE PRODUCTIVITY IN DILI MUNICIPALITY

Augusto Almeida da Silva

*Religious Education Department, Faculty of Education, Instituto São João de Brito,
Timor Leste*

Email: augusto250992@gmail.com

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Abstract

The changes and developments that have occurred at the beginning of the 21st century have changed the way of life and people's attitude towards the existence of the environment. A concrete example is the environmental pollution caused by improper waste disposal and management. Dili Municipality can be categorized as the dirtiest city. This study aims to investigate the other side of the lack of community participation in environmental protection, namely the awareness of the importance of the interrelationship between humans and the environment. The study used mixed methods to collect and analyze data. The results of this study show that people do not appreciate the environment as a place of interaction between living creatures that is comfortable and healthy. For this reason, the study of ecosophy in the analysis of the level of waste productivity provides an added value that complements the technical side of the waste management process.

Keywords: *Kotamadya Dili; Environmental Crisis; Pollution; Environmental Philosophy; Ecosophy.*

Abstrak

Perubahan dan perkembangan yang tercipta di awal abad XXI telah mengubah cara hidup dan pola pikir manusia terhadap eksistensi alam semesta (lingkungan hidup). Fakta konkrit yang dapat dijadikan contoh ialah pencemaran lingkungan oleh pembuangan dan pengelolaan sampah yang tidak benar. Kotamadya Dili dapat dikategorikan sebagai kota terkotor. Studi ini bertujuan untuk mengkaji sisi lain dari kurangnya partisipasi masyarakat dalam menjaga lingkungan hidup, yaitu kesadaran akan pentingnya relasi timbal-balik antara manusia dan lingkungan hidup. Penelitian tersebut menggunakan metode kombinasi, dalam mengumpulkan dan menganalisa data. Hasil kajian ini menunjukkan bahwa masyarakat kurang menghargai lingkungan sebagai "locus" interaksi antara makhluk hidup yang nyaman dan sehat. Untuk itu dengan kajian ecosophy dalam menganalisa tingkat produktivitas sampah memberi nilai tambah yang melengkapai sisi teknis dari proses pengelolaan sampah.

Keywords: *Kotamadya Dili; Krisis Lingkungan; Polusi; Filsafat Lingkungan; Ecosophy.*



A. Introduction

The fundamental question of human survival is predicated on the concepts of time and space. The universe, herein referred to as "space," is the temporal domain, while the human life cycle is the temporal span. Within these dimensions, humans actualize their existence by acquiring experiences. These efforts, aimed at self-actualization, position humans as moral agents within their environment. Consequently, all policies pertaining to the environment must be evaluated based on their impact on humans and their interests. Even in the face of the inherent disharmony of the universe, humans are obligated to enhance themselves as a component of the universe. The intricacies of human life, characterized by its ethical and accountable nature, are a testament to its complexity.

The complexity of human life escalated to such an extent in the 20th century that it precipitated a gradual shift in the human mindset and lifestyle. This transformation in perspective and conduct has culminated in a pervasive sense of human self-centeredness, particularly with regard to environmental concerns. The environment, which should serve as a habitat for humans and other creatures to coexist in harmony, has been marred by human egocentrism. The prevailing condition of environmental degradation is indicative of an impending environmental crisis, with the potential to result in ecological imbalance and environmental destruction. Concrete evidence of this crisis includes the disruption of seasonal patterns, the exacerbation of flooding during the rainy season, and other such phenomena.

The ongoing environmental crisis has also had an impact on people's social lives. This increase has been observed across multiple domains, including health, the economy, politics, and culture. Air and water contamination have given rise to a multitude of chronic diseases, including acute respiratory infections (ARI), asthma, allergies, tuberculosis, and numerous others. The socioeconomic ramifications of environmental crises, precipitated by factors such as poverty, have been associated with hunger, malnutrition, and crop failure. These impacts have the potential to give rise to social conflict between communities and the environment.¹

The environmental crisis, marked by climate change and socio-economic vulnerability for affected communities, is a matter of both global and local concern. This crisis is of particular concern to academics, environmental activists, and other relevant parties. The act of waste disposal and management is a contributing factor to the environmental crisis and is a matter of concern for all. Waste is a byproduct of human activity that is ubiquitous in urban environments. The escalating human population and the phenomenon of urbanization are pivotal factors contributing to the augmentation of waste within the immediate environment.² Waste is defined as the remaining object used by humans from their daily life activities. The generation of waste is a constant and uninterrupted phenomenon, occurring in perpetuity as long as human beings persist in their real-world interactions.

Timor Leste can be classified as a developing country that has the potential to increase its waste productivity. The primary factors contributing to this potential include the deficiencies in the management system and the implementation of regulations that are inadequate and inefficient.³ The escalation in waste generation within the municipality of Dili is influenced by a combination of technical factors and the prevailing mindset and lifestyle of the local community. This alarming reality is not merely a technical issue in the management of waste; it is a multifaceted phenomenon. This phenomenon is not merely a random occurrence; rather,

¹ Keraf, Sony A, *Krisis dan Bencana Lingkungan Hidup Global*, Yogyakarta: Kanisius, 2010, p. 64-70.

² Demirbas Ayhan. *Waste Management, Waste Resource Facilities and Waste Conversion Process*, in *International Journal on Energy Conversion and Management* 52, 2011, p. 1280-1281.

³ Asian Development Bank, *Solid Waste Management in the Pacific Timor-Leste Country Snapshot*. March, 18–20. Accessed July 25, 2024. <https://www.adb.org/sites/default/files/publication/42661/solid-waste-management-timor-leste.pdf>

it is the result of specific, identifiable causes. The prevailing environmental crisis and ecological imbalance, compounded by the escalating rate of waste production in the Dili municipality, are inextricably linked to shifts in public consciousness and patterns of conduct. The influence of this phenomenon is twofold, rooted in both primitive and contemporary factors. The first paradigm, erroneous human behavior, and the modernity-capitalist economy are the primary elements contributing to this influence.

An examination of the aforementioned factors reveals that human presence constitutes the primary catalyst for an environmental crisis, typified by the proliferation of waste and its subsequent deleterious effects on the environment. A parallel scenario is observed in the municipality of Dili, where the daily generation of waste amounts to 250 tons. This phenomenon can be attributed to the actions of the Dili municipality's inhabitants. This phenomenon is of particular interest for study, as the study of environmental issues, especially the increase in waste generation, is typically associated with technical and practical matters. A comprehensive review of the extant scientific literature, including the author's own contributions, revealed a conspicuous absence of research exploring or discussing the issue of waste generation in the Dili municipality from a philosophical perspective, specifically within the framework of ecosophy, the study of the phenomenon of increasing waste generation.

The following scientific articles have explored the situation of waste problems in Dili municipality: "Household Waste Management in Dili City," written by Zulmira Ximenes da Costa and Bia Ble Hitu Carvalho de Jesus. Marciano Borges Ximenes's research focused on the Waste Generation and Composition in the Capital City of Dili, Dili Municipality, Timor Leste. Additionally, the author himself has authored a scientific article that reviewed the problem of household waste management strategies and their impacts in the capital city of Dili. The three scientific articles under review here focused on the technical aspects of addressing the issue of increasing waste productivity in Dili municipality. The gap that the author found from the previous articles is the lack of a philosophical approach that revisits the relationship between humans and nature, especially the practice of ecological values lived by the community in the midst of increasing waste management efforts.

The philosophical approach in analyzing the environmental crisis is not the newest study thus far. Generally, we can find philosophical research on the issue of the current environmental crisis. However, one phenomenon of the environmental crisis that has captured the attention of the Dili municipality inspired the author to conduct an environmental philosophy study on it. The philosophical approach that the author uses in this study is ecosophy. As a philosophical concept, the term ecosophy is a creation of Norwegian philosopher Arne Naess' thinking, which encourages humans to live in harmony with nature or the environment.⁴ Consequently, the author acknowledges the significance of presenting an alternative viewpoint on tackling the issue of waste productivity in Dili municipality, as it has the potential to result in environmental degradation.

B. Method

The research method used in this study is a combination method, also called a "mixed method." The author uses this approach at the same time. This approach combines quantitative data qualitative data to provide a comprehensive analysis of the research problem. The combination method tries to measure the level of waste productivity using real data and previous research data. It also tries to explore the philosophical values and ecological

⁴ Md. Munir Hossain Talukder, *Nature and Life: Essay on Deep Ecology and Applied Ethics*, United Kingdom: Cambridge Scholars Publishing, p. 27.

awareness of the community (ecosophy) through in-depth interviews and observations. Then, it compares and integrates data from the two approaches.

The data collection was conducted using a variety of methods, including surveys, observations, sampling, and the distribution of questionnaires with structured concepts in forum group discussions. In addition, interviews with relevant parties and thematic analysis were used to identify patterns of thought, Eco social values, and community perceptions of the environment based on ecosophy. In the subsequent stage of data integration, the author compares quantitative results (level of waste productivity) with qualitative results (level of ecological awareness), identifies whether the level of waste productivity correlates with low ecological values in society, and provides an explanation of how the gap between ecological awareness and the reality of waste productivity can be overcome through an interdisciplinary approach.

In this context, the author posits that the ecosophical study of environmental pollution by waste productivity in Dili municipality underscores the significance of human awareness in treating the environment as part of a common life. The concept of ecocentrism is rendered particularly salient by the awareness of the reciprocal relationship between humans and the environment, offering a novel understanding of environmental issues. Consequently, this paradigm shift necessitates a transformation in both mindset and behaviour, particularly in regard to environmental interactions and relations, with the overarching objective being to mitigate the adverse consequences for the lives of those residing in the affected area.

C. Result and Discussion

1. Environmental Realities of Dili Municipality

The environment is an inextricable source and element of human life and other living organisms. In essence, human existence and the dynamics of life, oriented towards the satisfaction of basic needs, are in constant interaction with the environment. The concept of reciprocity, therefore, underscores the human responsibility to prioritize environmental protection and management, thereby ensuring a harmonious balance is maintained. This approach enables individuals to partake in the aesthetic appreciation of nature, fostering a sense of interconnectedness and respect for the environment.

A healthy environment is one that provides opportunities for humans and other creatures to live and relate. In this symbiotic relationship, there is a mutual effort to enhance each other's lives. For instance, humans engage in activities such as deforestation for the purpose of creating new agricultural land. Similarly, marine biodiversity—including fish and other species that find sustenance and thrive in unpolluted seas—depends on a healthy environment. However, current data paint a disconcerting picture, both for humans and other living things. The pursuit of daily needs by humans has led to a degree of self-centeredness, contributing to a protracted environmental crisis.

The term "environmental crisis" refers to the imbalance and destruction of nature, which is characterized by the uncertainty of seasons, floods, and other phenomena. The following are examples of environmental crises that are evident in the present day: first, environmental damage, which includes forest damage, soil damage, coral reef damage, and ozone layer damage. Secondly, environmental pollution encompasses air pollution, water pollution, and soil pollution. Environmental pollution is defined as the contamination of the physical and biological components of the Earth system and atmosphere, thereby disturbing the balance of the environmental ecosystem. This contamination can be attributed to anthropogenic activities or natural processes that disrupt the environmental quality.⁵ This study

⁵ Keman, Soedjajadi, *Dasar Kesehatan Lingkungan*, Surabaya: Airlangga University Press, 2022, p. 210.

aims to contribute to the broader discourse on the environmental crisis by offering a nuanced perspective on the phenomenon of environmental pollution within the context of community life. The focal point of this study is the municipality of Dili, Timor-Leste.

The municipality of Dili is the capital city of Timor-Leste, a nation that is undergoing development.⁶ As a developing nation, it is characterized by ongoing and gradual progress in various sectors, including economic development, natural resource management, and human resource development. In this context, environmental concerns have emerged as a significant focal point for various stakeholders, including environmental activists and relevant authorities. The study's central theme is the phenomenon of heightened productivity in the Dili municipality, which has led to a pernicious environmental impact, namely environmental pollution.

The discourse on the subject of waste, in terms of both its potential and its adverse impacts, has thus far underscored the efficacy of appropriate, effective, and ideal management strategies. The prevailing perspective is that waste is an inherent byproduct of human activities in daily life.⁷ In essence, the process of fulfilling fundamental needs gives rise to a multitude of byproducts, including food scraps, used bottles, cans, and other products, which are produced directly or indirectly by humans. These discarded products, devoid of any practical application, are designated as waste. The conceptualization of waste is subject to the specific legislative framework of a given nation. However, a consensus exists regarding the general understanding of waste as the remnants of materials utilized by humans in their daily lives, which are subsequently rendered superfluous. These materials may possess either a negative or a positive potential.

An interview with the Minister of State Administration (Ministro Adminitrasaun Estatal-MAE), Neon Metin, revealed that the Dili municipality produces 250 tons of waste daily. The composition of this waste has been categorized as follows: 33% consists of tree leaves, 18% is plastic waste, 18% is paper waste, and the remaining percentage is food waste.⁸ This phenomenon is an environmental issue that is quite alarming and can threaten an environmental crisis, particularly environmental pollution, for people's lives. Conversely, in 2014, the Asian Development Bank published a prominent journal article that characterized Timor Leste as a developing country in the nascent stages of its waste productivity growth trajectory.⁹

The findings of the author's research indicate that the level of waste productivity in Dili municipality is a matter of significant concern. The municipality, which comprises four sub-districts (Dom Aleixo, Vera Cruz, Nain Feto, Cristo Rei, and Metinaro), exhibits significant disparities in its demographic characteristics. Metinaro stands out as the sole sub-district that is distant from the vibrant residential areas of Dili Municipality. Dom Aleixo, Vera Cruz, Nain Feto, and Cristo have a densely populated demographic and a poorly organized housing system.¹⁰ The high population density in Dili municipality is attributable to the dynamics of

⁶ Almeida, Augusto da Silva, Maryono & Ferry Hermawan, An Introduction Assessment of Household Waste Management Strategy Problem and its Impact in Capital City of Dili: A Preliminary Literature Review, dalam Jurnal Prosiding E3S Web Conferences 317, 01076, ICENIS, 2021, p. 4.

⁷ Barnabas, Godwin et al., *Solid Waste Management across the World: a Review*, dalam Jurnal Ecology Environment and Conservation 23 (February Supp.): 2017, p. 339.

⁸ Zevonia Vieira, *Komunidade Dili kada loron Produz Lixu 250 ton, 55% ba Tibar, 45% ba Valeta no Tasi.* Accessed August 3, 2024. <https://neonmetin.info/buletin/2021/02/16/komunidade-dili-kada-loron-produz-lixu-250-ton-55-ba-tibar-45-ba-valeta-no-tasi/e>

⁹ Asian Development Bank. *Op.Cit.*

¹⁰ Ministry of Planning and Strategic, *The Project for study on Dili Urban Master Plan in Democratic Republic of Timor Leste*, 2016, p. 46-47.

urbanization, which compel individuals to voice their discontent in order to attain a higher standard of living. At the very least, sustenance is procured on a daily basis.

The intertwined dynamics of population density and urbanization have engendered a novel lifestyle, one that has undoubtedly engendered adverse environmental and social consequences for the community. The statistic of waste productivity reaching 250 tons per day offers further evidence of the negative effects of urbanization in the municipality of Dili. Of the 250 tons of waste produced by the residents of Dili municipality, only 55% are transported by trucks to the landfill without clear segregation. The remaining 45% is disposed of in Dili municipality's waterways (sewers) and seacoasts. Two substantial factors influence the poor environmental quality in Dili municipality regarding waste productivity. First, technical factors, including the management system and inadequate local regulations, contribute to this issue. Secondly, human factors, including mindset, lifestyle, and socio-cultural conditions, contribute to this environmental crisis.

The technical dimension of the waste management process is comprised of five distinct systems, which are supported by regional regulations designed to promote healthy living. The five waste management systems encompass the institutional system, the operational technical system, the financing system, the regulatory system, and the community participation system.¹¹ In consideration of the aforementioned conditions, the municipality of Dili has established a specialized department, the Department of Water and Sanitation Services (*Service de Agua e Saneamento*), to address and assume responsibility for matters pertaining to waste management. The department is under the leadership of an Administrator/Regent, who is chaired by a member of the hygiene and sanitation division.

The people of Dili municipality generally still carry out the process of collecting, transporting, and disposing of waste in the traditional way. Even the government, specifically the Dili municipal cleaning division, employs the same method in the waste management process. This approach to waste management by local governments has been the subject of concern, as it has been observed to lack balance and to be incongruent with the budget allocated by the central government. This incongruity is particularly salient in the context of fiscal administration, where the allocation of financial resources for waste management operations is a matter of public concern. The budget allocated for waste management operations in the Municipality of Dili amounts to Rp. 2,300,000.00 (two million three hundred thousand rupiahs) or the equivalent in US dollars. 34,474,700,000.00 (thirty-four billion four hundred seventy-four million seven hundred thousand rupiah).¹²

Regional regulations have the capacity to regulate or provide direction in the waste management process. The extant regulations are predicated on government regulations, Law No. 33, Year 2008 on Hygiene and Public Order. Article 5 of this legislation explicitly prohibits the disposal of waste in waterways and their banks, as well as in rights of way. Article 6 stipulates the prohibition of littering and the dumping of refuse in public squares and other designated areas, as well as the burning of plastic and rubber. Article 9 stipulates the imposition of appropriate penalties for violations of Articles 5 and 6.¹³

The government, through the aforementioned regulations, has mandated that individuals maintain clean and orderly environments in urban areas. However, the regulations in question have not been sufficiently elucidated. The legislative framework, embodied within

¹¹ Standar Nasional Indonesia, *Tata Cara Teknik Operasional Pengelolaan Sampah*, Jakarta : Badan Standarisasi Nasional, 2002, p. 1-27.

¹² Florência Miranda Ximenes, "Governu Preve Milaun \$18 melhora Jestaun Lixu iha Dili." Accessed August 6, 2024. <https://tatoli.tl/2021/02/03/governu-prevee-millaun-18-mellora-jestaun-lixu-ih-dili/>

¹³ Republica Democratica de Timor Leste, *Decreto Lei No. 33/2008*, dalam *Jurnal da Republica*, Dili : MAE, p. 2606-2607.

Law No. 33 of 2008, endeavors to institute administrative measures at the district level, with the objective of addressing issues of cleanliness and public order. The aforementioned legislation stipulates the prohibition of the improper disposal of organic waste in designated areas.

The ambiguity of the legislation in question has been demonstrated to be a contributing factor to the underrepresentation of community involvement in the waste management process, which is a crucial element in ensuring a healthy environment. The dearth of knowledge, influenced by factors such as educational attainment, economic status, and self-efficacy, hinders individuals' and communities' capacity to engage proactively in waste management processes. Conversely, the absence of collaboration between the government and pertinent stakeholders hinders the community's capacity to implement effective waste management methodologies. This situation is further compounded by socio-cultural factors that impede mutual understanding and effective collaboration, thereby undermining the sustainability of a healthy and peaceful environment.

The phenomenon of increased waste productivity in Dili municipality is influenced by the community's indifferent attitude toward environmental organization. The results of observations and the tabulation of questionnaire data in Table 1 thoroughly illustrate that the community at the research location is not actively participating in proper waste management procedures. This is evidenced by an average score of 12 out of 100, representing 33% of the maximum score possible. The absence of socialization and the implementation of stringent regulations and sanctions continue to impact the dynamics of community participation in the household waste management process. This phenomenon should be a serious concern for all parties, including the government, related institutions, NGOs, and the community. To address this critical issue, the government or relevant institutions must provide assistance and encouragement to communities, ensuring they have the knowledge and skills to manage waste effectively and in accordance with best practices.

A critical factor that demands rigorous scrutiny in the context of the escalating waste productivity in Dili municipality pertains to the human dimension, encompassing the lifestyle and mindset of the local community. The human dimension in question pertains to the awareness of the local community's existence within the context of the environment. The environment, a constituent element of the universe, has been conceptualized as a "brother" to humankind, fulfilling essential needs for survival. For instance, the fresh air that humans breathe is the result of natural or environmental health. In addressing the pressing issue of waste management in the Dili municipality, the author posits that the community is on a trajectory toward an imminent environmental crisis. This crisis has the potential to impact various facets of society, including social, economic, and cultural domains, thereby posing a threat to public health.

According to the findings of the study carried out by Zulmira Ximenes Amaral and his colleague, Bia Bela Hitu Carvalho de Jesus, the direct impact of improperly managed waste has been shown to reach 80% of the pollution level that is exerted upon the environment.

Table 1 Tabulation Results of Research Questionnaire Data

Analyzed Variables	Variable Code	NS	HS	LS	TS	%	I	Perception Category			
								L	M	E	Code
Respondents' Knowledge of Waste Management Procedures	X ₁	10	20	10	17	85%	3			✓	3
Respondents' Behaviour Toward Waste Management	X ₂	5	10	5	6	60%	1	✓			1
Respondents' Attitude Toward Waste Management	Y	5	15	5	13	87%	3			✓	3
		Average			12	33%		✓			1

Description:

- NS : Highest score
- TS : Total score
- HS : Lowest Score
- I : Interval, obtained from $(TS-HS)/4$
- (L) – (M) – (E) : Less, Medium, Exelent

A recent study has revealed a significant proportion of environmental pollution, with 80% of the total being attributable to various sources. Of this 80%, 23% has been attributed to water pollution while 20% has been linked to air pollution. Furthermore, 15% of this pollution has been attributed to inadequate sanitation and water quality degradation, while 22% has been attributed to traffic disruption due to congestion.¹⁴

The presence of irregular waste has been linked to various forms of chronic diseases, including ARI, asthma, allergies, cancer, and tuberculosis, among others. The coexistence of these conditions is a matter of particular concern, given the irony inherent in the occurrence of such health complications. Beyond the immediate health concerns, the presence of uncontrolled waste can also give rise to social challenges, including intercommunity conflicts.

This pervasive issue is not a phenomenon that emerges spontaneously; rather, it is the result of specific underlying causes. The author posits that the environmental imbalance and crisis, characterized by air, water, and soil pollution resulting from waste productivity, are attributable to two fundamental yet contemporary factors. The two factors in question are as follows: first, the incorrect human paradigm and behavior, and second, the modernity-capitalist economy.

Lynn Townsend White Jr., in his essay "Historical Roots of Our Ecological Crisis," posits that a significant inflection point in the relationship between humanity and the universe was precipitated by the Industrial Revolution. This assertion underscores the profound implications of industrialization on the historical dynamics of ecological crises and underscores

¹⁴ Ximenes, Zulmira Amaral and Bia Ble Hitu Carvalho de Jesus, *Urban Solid Waste Management in Dili Community*, dalam International Journal of Engineering Research & Technology, Vol. 7 Issue 05, May 2018.

the need for a comprehensive examination of the intertwined relationship between humanity and the environment in the context of social and environmental crises.¹⁵ The advent of the Industrial Revolution led to a period in which human beings began to exercise arbitrary control over the natural world. The universe is regarded as a resource to be utilized for human consumption. This mentality finds its roots in the medieval Christian perspective, which influenced the way individuals viewed the natural world. Two Christian attitudes towards the universe have historically contributed to the ecological crisis. First, the Bible partially legitimizes human dominance over nature (cf. Gen 1:28). Secondly, various Christian dogmas explicitly distinguish human beings (as persons in partnership with God) from other soulless creations. These two attitudes contributed to the emergence of the spirit of anthropocentrism. Nonetheless, the Church, through the efforts of St. Francis of Assisi, initiated an objective and empirical contemplation on the relationship between humans and the universe. The notion of ecological solidarity, pioneered by St. Francis of Assisi, fostered a paradigm shift towards human respect for the universe. This shift in perspective marked a fundamental transformation in human perception, fostering a newfound appreciation for the universe as an integral part of human existence.

The historical facts of the aforementioned interpretation are not necessarily or explicitly found in the lives of the people of Dili Municipality. Nevertheless, the manifestations of a consumptive mindset and lifestyle, in conjunction with the audacity of disposing of refuse in a manner that disregards environmental concerns, serve as indicative of a perception of environmental superiority. This attitude is characterized by a perceived separation between humans and their environment, with the environment being regarded as a mere adjunct to human existence. This attitude is exemplified by the disposal of refuse in an indiscriminate manner, reflecting a disregard for proper management and a sense of entitlement. The modernity and capitalist economic structure that characterize the Dili municipality are significant factors contributing to environmental pollution through waste productivity. The advent of modernity and the capitalist economic system has precipitated profound shifts in human attitudes toward the universe, particularly the environment, which is in a state of constant flux. It is an irrefutable fact that detrimental environmental conditions will invariably persist as a perennial problem in life. Economic exploitation and human economic activities can result in the production of residual materials that, if not managed properly, can contribute to environmental pollution. A case in point is the presence of plastic waste, which is not subject to decomposition, in markets that engage in buying and selling activities. Similarly, the inadequate disposal of garden waste or other materials by Chinese business establishments contributes to the city's unsightly and unhealthy appearance. This phenomenon is undoubtedly propelled by an orientation towards economic development.¹⁶ These well-intentioned efforts, however, have deleterious consequences for the environment and society as a whole.

A thorough examination of the two primary factors contributing to the escalating rate of waste productivity in the municipality of Dili illuminates the detrimental consequences of environmental pollution. This analysis underscores the harm inflicted upon the environmental ecosystem and the intricate dynamics of community life. The pervasive odors emanating from the gutters, the smoke from the incineration of refuse, and the strewn garbage collectively portend an environmental ecosystem that has become unviable.

¹⁵ White, Lynn. 1974. *"The historical roots of our ecologic crisis [with discussion of St Francis; reprint, 1967]," Ecology and religion in history*, New York: Harper and Row, 1974, p. 3-4.

¹⁶ Sony A. Keraf. *Op.Cit.* p. 85.

2. From Anthropocentrism – Capitalist Economics to Eco-centrism

The concept of anthropocentrism and the ongoing phenomenon of the capitalist economy in the lives of the people of Dili municipality play an important role in the process of waste growth or productivity. The present study aims to underscore the reciprocal relationship between humans and the environment by conducting an ecosophy analysis of environmental pollution caused by waste productivity in the Dili municipality. The author acknowledges that the ecosophy approach has the potential to offer novel insights into modifying mindsets and consumption patterns, thereby facilitating the regulation of the environmental ecosystem.

Ecosophy, also referred to as environmental philosophy or ecological philosophy, is a concept that examines the relationship between humans and the environment. Arne Naess is a renowned proponent of ecosophy. In essence, ecosophy aims to foster a comprehensive understanding of the harmonious relationship between human life and the environment. The practice of living sustainably and in harmony with the environment is a fundamental aspect of ecosophy, as it signifies that the environment and the universe are the home of humans.¹⁷ Philosophy, akin to life, is a continuous, dynamic process of re-examination. Humans engage in introspection as they interact with the external world, thereby determining the direction and meaning of life.¹⁸

Philosophical concepts may appear vague and theoretical; however, the process of abstraction is essential for elucidating experience and perceiving reality from a different perspective. In the context of environmental pollution caused by waste productivity, the utilization of philosophical concepts as an alternative solution is imperative. Environmental philosophy, also known as ecosophy, is a comprehensive perspective that acknowledges the significance of waste beyond the mere presence of physical waste, or useless remains of human production. Rather, it encompasses widespread psychological, social, and economic impacts. The foundational aspect of environmental philosophy is environmental ethics, which encourages individuals to contemplate their ethical obligations towards the environment.¹⁹ In light of the prevailing environmental concerns stemming from waste generation, there is an imperative for a reevaluation of the human responsibility in this matter. A critical aspect of addressing this issue is to establish a robust ethical foundation that can effectively influence consumer behavior within the context of the prevailing capitalist economic dynamics.

The text demonstrates the significance of social equality in environmental ethics, emphasizing its role in addressing environmental issues. This underscores the propensity for waste accumulation in specific regions, thereby diminishing its adverse impact on both human populations and the natural environment. Achieving and maintaining a dynamic equilibrium within the environment necessitates a reduction in consumption of environmentally detrimental goods, a promotion of reuse, recycling, and innovation in green technology. The pivotal factor in achieving this objective is the role of human participation and awareness, which encompasses the impact of consumptive behavior. Encouraging active participation in sustainable solutions is also crucial.

The study of environmental philosophy, otherwise known as ecosophy, is the basis for the restoration or reconstruction of the anthropocentric and economic capitalist mindset, particularly with regard to environmental pollution by waste productivity. Anthropocentrism,

¹⁷ Mark A. Schroll and Claire Polansky : Exploring the Mythology Behind the the Superhero and Hero's Journey through Comicbook Lore: Implicationi for Transpersonal Ecosophy." Dalam *Ecology, Cosmos and Consciousness*, ed. Mark A., Schroll. United Kingdom: Psychoid Books, 2018, p. 83.

¹⁸ Snijders, Adelbert. *Antropologi Filsafat Manusia : Paradoks dan Seruan*, Yogyakarta : Kanisius, 2016, p. 18.

¹⁹ Miftachul, Atok Hudha and Adbukadir Rahardjanto. *Etika Lingkungan*, Malang : Universitas Muhammadiyah, 2019, p. 64.

the prevailing philosophy that prioritizes human existence as the center of all things, is a concept that must be examined in this context.

The study of environmental philosophy, otherwise known as ecosophy, is the basis for the restoration or reconstruction of the anthropocentric and economic capitalist mindset, particularly with regard to environmental pollution by waste productivity. Anthropocentrism, the prevailing philosophy that prioritizes human existence as the center of all things, is a concept that must be examined in this context.²⁰ Adherents of this concept posit that humans hold a higher value than the universe or the environment. However, the ecosophy approach involves a reconstruction of anthropocentrism into ecocentrism, thereby prioritizing the existence of the environment. According to this philosophy, humans bear the responsibility to safeguard and nurture the environment, thereby fostering harmony and ensuring the continuity of the ecosystem for the benefit of future generations. Consequently, the ecosophy is conceptualized as a social necessity, predicated on the cultivation of awareness that environmental protection and preservation are obligations incumbent upon all individuals, for the benefit of succeeding generations.²¹

D. Conclusion

The phenomenon of environmental pollution by waste productivity constitutes a global environmental crisis. Timor-Leste, as a developing nation, is experiencing a concurrent environmental crisis, marked by a substantial increase in waste productivity. The community serves as a tangible illustration of this issue, with a pervasive presence of waste. The improper disposal of waste, which is not managed in accordance with established environmental management protocols, contributes to the ongoing and pervasive contamination of the natural environment, adversely impacting human health and the well-being of other living organisms.

The author recognizes that a pivotal aspect of the nexus between waste and the environmental crisis, particularly the contamination of the environment by waste, encompasses not solely technical concerns but also the ethical dimensions of human life. Consequently, ethical considerations and world views concerning the relationship between the environment and human beings assume paramount importance. In addressing this concern, the author posits that the ecosophy approach constitutes the optimal solution.

The environmental ethics are highlighted by the observation and management of environmental pollution from waste productivity. The concept of environmental ethics emphasizes that humans are acutely aware of their role as a constituent of the environment, particularly in regard to preserving its sustainability and aesthetic integrity. The concept of ecosophy underscores the inherent interconnectedness of the relationship between humanity and the environment, emphasizing the significance of environmental stewardship. The consequences of human actions towards the environment are intertwined with the well-being of humanity. For instance, the practice of indiscriminate waste disposal can lead to environmental degradation and subsequent health complications for the community.

The most effective method of incorporating and ensuring the prioritization of environmental ethics within the ecosophy approach is through environmental education. Environmental education can be defined as the process of enhancing public comprehension and awareness of environmental issues and crises, while cultivating competencies and attitudes that prioritize the preservation and sustainable management of the environment. The role of

²⁰ Barman, Mayuri. *Arne Naess Reflection of Eco-Centrism and Deep-Ecology with Utilitarian and Deontological Defence Against Anthropocentrism Theory*, in *Journal of Positive School Psychology*, Vol 6, No. 3, 2022, p. 8736.

²¹ Lima Kellison Cavalcante and Rafael Santana Alves. *Ecosophy and the Relationship between Man and Nature in Contemporaneity*, in *International Journal of Advance Engineering Research and Science*, Vo. 7, issue 1 Jan 2020, <https://dx.doi.org/10.22161/ijaers.71.23>, p.166.

environmental education in fostering a pro-environmental attitude and commitment to environmental conservation is well-established.

Therefore, the community is oriented to understand its existence as the smallest part of the environment, which is responsible for the waste it produces. Consequently, the environmental ethos of the community is forged through its approach to waste management and the mitigation of excessive consumption, thereby contributing to the prevailing economic capitalism.

Bibliography

- Abbas, Tashakkori & Charles Teddlie, *Mix Methodology Mengombinasikan Pendekatan Kualitatif dan Kuantitatif*, trans. Budi Puspa Priadi, Yogyakarta: Pustaka Pelajar, 2010.
- Almeida, Augusto da Silva, Maryono & Ferry Hermawan, *An Introduction Assessment of Household Waste Management Strategy Problem and its Impact in Capital City of Dili: A Preliminary Literature Review*, in *Journal of E3S Web Conferences Proceedings* 317, 01076, ICENIS, 2021.
- Asian Development Bank, *Solid Waste Management in the Pacific Timor-Leste Country Snapshot*. March, 18–20. Accessed July 25, 2024. <https://www.adb.org/sites/default/files/publication/42661/solid-waste-management-timor-leste.pdf>
- Barman, Mayuri. *Arne Naess Reflection of Eco-Centrism and Deep-Ecology with Utilitarian and Deontological Defence Against Anthropocentrism Theory*, in *Journal of Positive School Psychology*, Vol 6, No. 3, 2022.
- Barnabas, Godwin et al., *Solid Waste Management across the World: a Review*, in *Journal of Ecology Environment and Conservation* 23 (February Supp.): 2017.
- Cresswell, Jhon W., *Research Design: Qualitative, Quantitative, and Mixed Method Approach*, IV edition, Lincoln: University of Nebraska, 2014.
- Demirbas, Ayhan *Waste Management, Waste Resource Facilities and Waste Conversion Process*, in *International Journal on Energy Conversion and Management* 52, 2011
- Farhaeni, Mutria. *Etika Lingkungan, Manusia dan Kebudayaan*, Yogyakarta: Deepublish Digital, 2023
- Lima Kellison Cavalcante and Rafael Santana Alves. *Ecosophy and the Relationship between Man and Nature in Contemporaneity*, in *International Journal of Advance Engineering Research and Science*, Vo. 7, issue 1 Jan 2020, <https://dx.doi.org/10.22161/ijaers.71.23>,
- Keman, Soedjajadi, *Dasar Kesehatan Lingkungan*, Surabaya : Airlangga University Press, 2022.
- Keraf, Sony A, *Krisis dan Bencana Lingkungan Hidup Global*, Yogyakarta: Kanisius, 2010.
- Miranda, Florência Ximenes, “*Governu Preve Milauan \$18 melhora Jestaun Lixu iha Dili.*” Accessed August 6, 2024. <https://tatoli.tl/2021/02/03/governu-prevee-millaun-18-mellora-jestaun-lixu-ih-dili/>
- Mark A. Schroll and Claire Polansky : *Exploring the Mythology Behind the the Superhero and Hero’s Journey through Comicbook Lore: Implications for Transpersonal Ecosophy.*”

- in Ecology, Cosmos and Consciousness, ed. Mark A., Schroll. United Kingdom: Psychoid Books, 2018.
- Md. Munir Hossain Talukder, Nature and Life: Essay on Deep Ecology and Applied Ethics, United Kingdom: Cambridge Scholars Publishing, 2018.
- Ministry of Planning and Strategic, The Project for study on Dili Urban Master Plan in Democratic Republic of Timor Leste, 2016.
- Miftachul, Atok Hudha and Adbukadir Rahardjanto. Etika Lingkungan, Malang : Universitas Muhammadiyah, 2019.
- Republica Democratica de Timor Leste, Decreto Lei No. 33/2008, in Jurnal da Republica , Dili : MAE. 2008.
- Snijders, Adelbert. Antropologi Filsafat Manusia : Paradoks dan Seruan, Yogyakarta : Kanisius, 2016.
- Standar Nasional Indonesia, Tata Cara Teknik Operasional Pengelolaan Sampah, Jakarta : Badan Standarisasi Nasional, 2002.
- Sugyono, Metode Penelitian Kombinasi (Mix Methods), Bandung: Alfabeta, 2011.
- Vieira, Zevonia Vieira. “*Komunidade Dili kada loron Produz Lixu 250 ton, 55% ba Tibar, 45% ba Valeta no Tasi.*” Accessed August 3, 2024. <https://neonmetin.info/buletin/2021/02/16/komunidade-dili-kada-loron-produz-lixu-250-ton-55-ba-tibar-45-ba-valeta-no-tasi/e>
- White, Lynn. 1974. *"The historical roots of our ecologic crisis [with discussion of St Francis; reprint, 1967],"* *Ecology and religion in history*, New York: Harper and Row, 1974, p. 3-4., as explained by Peder Anker in his book *The Power of the Periphery: How Norway Became an Environmental Pioneer for the World*, United Kingdom: Cambridge University Press. 2020.
- Ximenes, Zulmira Amaral and Bia Ble Hitu Carvalho de Jesus, Urban Solid Waste Management in Dili Community, in *International Journal of Engineering Research & Technology*, Vol. 7 Issue 05, May 2018.