CHAPTER I

INTRODUCTION

1.1 Research Background

Environmental issues are one of the most worrisome global challenges of the 21st century. Environmental issues have posed a threat to human life, especially in light of the growing body of data showing that human activities are having a major impact on the environment and changing the climate around the world.[1] Environmental problems including air pollution, climate change, and declining biodiversity must be addressed as soon as possible. The best course of action must be determined, and it must be a top priority so that these things do not happen in the future.[2]

Environmental conditions in Southeast Asia are deteriorating due to several issues such as environmental degradation, climate change, urbanization, waste management, and etc. Large cities with centers of economic activity, industry, and commerce are now facing serious challenges in managing the increasing volume of waste. Millions of tons of waste are generated daily from households, markets, offices, and industries. In many cities, the existing waste management system is often unable to cope with the amount of waste generated. As a result, a lot of waste is piled up in inappropriate places on roadsides, waterways, and residential areas.

[1] Dyer, H. (2018). Introducing Green Theory in International Relations. *E-International Relations*, 1-5.

[2] Doinga, S. (2020). Implementation Strategy of Green City Action Plan in Medan City through Indonesia-Malaysia-Thailand Growth Triangle Cooperation 2016-2020. *International Relations*, 1.

Indonesia, Malaysia, and Thailand face similar waste management challenges as fast-growing economies in the Southeast Asian region. In Indonesia, for example, the problem of waste management is a serious concern due to the lack of public awareness and weak handling of Indonesian government policies. Based on data from the National Waste Management Information System (SIPSN) of the Ministry of Environment and Forestry (KLHK) in 2022, it was recorded that Indonesia produced around 21.1 million tons of waste nationally. Of this amount, around 65.71% or around 13.9 million tons have been appropriately managed, while 34.29%, or around 7.2 million tons are still not handled optimally.[3] This condition triggers serious environmental and public health risks. Poorly managed waste has the potential to pollute water, soil, and air, which in turn can disrupt survival and threaten food security.

In Malaysia, household waste will continue increasing with urbanization and population growth. It is estimated that the country will generate more than 25,000 tons of household waste each day with waste generation continuing to increase by 7.5% each year to reach a total generation of 4.0 million tons.[4] Inadequate handling of waste can exacerbate environmental problems, such as pollution from water and soil pollution, and increase greenhouse gas emissions. Meanwhile in Thailand, plastic waste is a serious problem, with the country ranking in the world's top 10 in terms of the amount of *mismanaged plastic* waste. Each

[3] PMK, K. (2023, August 05). *7.2 Million Tons of Waste in Indonesia Not Well Managed*. Retrieved from KEMENKO PMK: https://www.kemenkopmk.go.id/72-juta-ton-sampah-di-indonesia-belum-terkelola-dengan-baik

[4] Marsha Adinda Wardani. (2024). Implementation of Household Waste Management Policy in Malaysia. *Journal of Multidisciplinary Social Sciences*. Page. 3.

year, about 1 to 5 million metric tons of plastic waste ends up in the ocean, contributing to about 3.2% of the total plastic waste that is not effectively managed.

This condition shows the need for a collaborative approach between countries to address the increasingly urgent waste problem by forming cooperation in preventing environmental damage and supporting economic growth. One such effort is the Indonesia-Malaysia-Thailand *Growth Triangle* (IMT-GT), a subregional cooperation initiative established in 1993 by the governments of Indonesia, Malaysia, and Thailand to assist the economies of the member countries. With this IMT-GT Cooperation aims to increase economic growth in the region by encouraging economic growth and overall regional development, utilizing available resources, and strengthening the comparative advantages of each member country.[5] Of course, this development is tailored to the problems faced in this region with target problems oriented towards sustainability in several sectors. Among them focuses on reducing greenhouse gases generated from waste disposal activities. Waste is the result of the disposal of the remnants of use which, if not managed properly, can produce methane gas and carbon dioxide which contribute to climate change and global warming.

The choice of waste as an environmental issue in the IMT-GT framework is driven by its wide-ranging and significant impact on various aspects of life. Waste issues, especially those that are not properly managed, can lead to pollution that damages ecosystems, threatens human health, and affects important sectors such as tourism and fisheries. With waste production increasing along with economic and

[5] Ibid, Doinga.

population growth, proper handling is becoming increasingly important to ensure environmental and economic sustainability in the IMT-GT region. Poorly managed waste can cause a variety of damage to the living environment. Plastic waste, for example, poses a serious threat to marine ecosystems. In addition, domestic waste carelessly dumped into rivers and waterways pollutes clean water resources, while industrial waste containing hazardous chemicals often contaminates soil and groundwater.

Given the urgency of this issue, intervention is needed through government policy and sub-regional cooperation such as IMT-GT. One of the important initiatives in IMT-GT is the *Green City Action Plan* (GCAP), designed to spur sustainable economic growth while taking into account the environment. GCAP is designed to develop action plans and projects that will support the transformation of cities into sustainable city models by 2036.[6] Through GCAP, IMT-GT provides a clear framework for member cities by grouping them into several sectors including the transportation sector, energy sector, and solid waste management sector. These sectors function to reduce greenhouse gas emissions by reducing the impact of waste and creating a greener and healthier urban environment. This initiative is highly relevant to addressing waste issues in Indonesia, Malaysia, and Thailand.

This research discusses the Indonesia-Malaysia-Thailand *Growth Triangle* (IMT-GT) cooperation in dealing with waste issues through the implementation of programs and policies from the *Green City Action Plan* (GCAP) program. The point

[6] Ibid, Doinga.

of view used by the author to see the IMT-GT strategy through GCAP is to use the concept of *Green Economy* in analyzing waste problems in the three member countries, so that the issue of waste problems is considered important to be researched, to see the extent of IMT-GT cooperation in dealing with waste issues through the implementation of the GCAP program

1.2 Research Question

How the Indonesia-Malaysia-Thailand *Growth Triangle* (IMT-GT) cooperation deal with waste cases through the implementation of the *Green City Action Plan* (GCAP)?

1.3 Research Purpose

This research aims to analyze the Indonesia-Malaysia-Thailand *Growth Triangle* (IMT-GT) cooperation in handling waste cases in member countries through the implementation of the *Green City Action Plan* (GCAP).

1.4 Research Uses

1.4.1 Academic Uses

The benefits of the results of this study for academics include:

1. To provide an understanding of various phenomena and information related to the Indonesia-Malaysia-Thailand *Growth Triangle* (IMT-GT) Cooperation in handling waste cases in member countries through implementating the *Green City Action Plan* (GCAP).
2. To provide additional knowledge for International Relations scholars, especially those interested in Development Studies.

1.4.2 Practical Uses

This research can be useful as follows: The results of this study are useful and provide benefits to be applied to all parties concerned with the problems the author examines and the objects discussed.

1.5 Literature Review

1.5.1 Previous Research

The first research that the author will use as a comparison material in the previous research section is entitled ***"Criticism of BIMP-EAGA Cooperation Through Green City Action Plan (GCAP) in Indonesia"*** by Muhammad Akmal Firdaus and friends. This research discusses the BIMP-EAGA subregional cooperation in implementing the BIMP-EAGA Visioin 2025 vision. Indonesia is a leading country in the Environmental Pillar which has a Priority Infrastructure Project (PIP) called the Green Cities Initiative. Kendari City has been actively participating in the Green Cities Program (GCP) since 2010 and in 2014, Kendari was selected as a pilot project for the Green City Development Program (P2KH) initiated by the Ministry of Public Works.[7] The similarity with this research is the use of the concept of using the green city program as the main approach. However, Muhammad Akmal's research is more detailed in discussing the implementation of the *Green City* program in Kendari city. Meanwhile, this research will focus on the implementation of the *Green City Action Plan* in helping to overcome waste problems in member countries.

[7] Muhammad Akmal Firdaus. (2023). Criticism of BIMP-EAGA Cooperation Through Green City Action Plan (GCAP) in Indonesia. *Research Horizon*, *3*(6).

The second research, titled **"Strategy for Implementing the *Green City Action Plan* in Medan City through the Indonesia-Malaysia-Thailand Growth Triangle Cooperation 2016-2020"** was conducted by Doinga and Sofyan. This research discusses the role of the Medan City Government in implementing the GCAP implementation strategy in Medan City, by promoting *Green City* development to create sustainable, environmentally friendly, livable environmental infrastructure. The Medan City Government participated in realizing *Urban Sustainability* through the *Green City* development approach. The similarity between these two studies lies in the concept of implementing GCAP proposed by IMT-GT in realizing environmentally friendly and livable development. However, Doingan and Sofyan discuss in more detail the role of the Medan City government in realizing a green city system in Medan. Meanwhile, this research will focus more on handling waste in each IMT-GT region, not just one city.

The next research is entitled ***"A Review of Future Household Waste Management for Sustainable Environment in Malaysia Cities"*** written by Kin Meng Cheng and friends in 2022.[8] This research discusses waste management during the Covid-19 pandemic. Some recycling centers in Malaysia have shown sustainability and better waste management to reduce the amount of household waste in Malaysia. This research also focuses on investigating waste management in three cities in Malaysia including Kuala Lumpur, Penang, and Melaka. The similarity with this research is that both studies examine waste management in Malaysia. However, this research focuses more on the effectiveness of household

[8] Kim Meng Cheng, J. Y. (2002). *A Review of Future Household Waste Management for Sustainable Environment in Malaysian Cities.* Malaysia: MDPI Sustainability.

waste management. Additionally, the author will examine waste management in Malaysia, Indonesia, and Thailand and how it can promote sustainable development.

The following research is entitled **"*Sustainable Waste Management and Waste to Energy Recovery in Thailand*"** by Warangkana Jutidamrongphan in 2018. This research discusses a power plant that comes from waste energy in one of the cities in Thailand. This plant is capable of processing 70 tons of organic waste per day but the actual results have decreased to 20 tons per day based on the limited amount of waste separation carried out to isolate organic waste. The similarity with this research is that both examined waste management in Thailand. However, this research focuses more on regulations and policies as well as the utilization of electrical energy waste in Thailand. The author concentrates on how waste management can contribute to sustainable growth in the IMT-GT Region.

The next research entitled **"*Sustainable Development in Malaysia: A Case Study on Household Waste Management*"** by Dr. Md. Abdul Jalil. This research discusses sustainable development through household waste management. Malaysia produces thousands of tons of waste per day which is usually disposed of in landfills. Waste dumped in landfills releases methane gas, which contributes to the greenhouse effect and accelerates climate change. Therefore, the Malaysian government argues that this large amount of organic waste must be managed efficiently so that it does not litter cities and villages and pollute the air and water or emit harmful methane gas The similarity with this research is that both discuss waste management in Malaysia. However, this research focuses too much on Malaysia's challenges and opportunities in managing household waste. While the

author will focus on IMT-GT Cooperation in managing waste as green growth in regional countries.

1.6 Conceptual Framework

1.6.1 Sub-Regionalism Concept

Sub-regionalism can be simply defined as cooperation between two or more countries that are geographically close and share common backgrounds such as a common culture, social interests, and a shared history that can unite these countries into one region.[9] Regionalism is often realized through subregional cooperation, so these two terms are often considered to have similar meanings. [10]

Buzan, Waever, and de Wilde describe a subregion as a part of a particular region, whether it consists of one or more countries or some transnational composition (mixing of countries).[11] Subregional cooperation is a form of collaboration between countries in a particular region, usually those with geographical proximity, to accelerate regional economic growth. Although each country has its interests, in general, subregional cooperation aims to promote development and improve the welfare of countries in the region.[12]

[9] Nuraeini, S. (2010). *Regionalism in the Study of International Relations*. Student Library. Yogyakarta.
[10] Arif, Muhammad Amirul. 2020. *Wastewater Management in Medan Industrial Estate*.
[11] Ibid.
[12] Laut, D. J. (2023, December 24). *Foreign Cooperation*. Retrieved from Ministry of Transportation of the Republic of Indonesia: https://hubla.dephub.go.id/home/page/kerjasama-luarnegeri#:~:text=Kerjasama%20regional%20adalah%20kerjasama%20antara,pertumbuhan%20ekonomi%20di%20kawasan%20Regional.

Sub-regionalism is a derivative of the theory of regionalism that developed in the study of international relations. Sub-regionalism is a form of cooperation between two or more countries that are geographically close and have the same culture and history with the aim of accelerating development and improving regional welfare. Although often equated with regionalism, sub-regionalism emphasizes collaboration in smaller and more specific areas.

In the context of this problem, sub-regionalism functions as a tool to see the problems in the three countries of Indonesia, Malaysia and Thailand as cross-border problems that are not sufficiently resolved by each country, thus requiring a broader forum for cooperation between countries. In waste management, these three countries face the same problems and challenges and have the same socio-economic characteristics. The concept of sub-regionalism is used as a tool to understand how the three countries are trying to deal with waste problems that have had cross-border impacts. This cooperation is not only related to environmental problems but is united by a common goal for the development of an interconnected region.

IMT-GT enables cross-border cooperation in environmental projects through the Green City Action Plan program. Through the subregionalism approach, environmental solutions such as waste problems are not seen as a burden, but as part of a competitive and sustainable green economic development strategy. This approach strengthens the understanding that environmental solutions cannot be built partially, but must go through comprehensive regional collaboration.

This concept is relevant in addressing environmental issues, including effluent problems, in sub-regional areas such as the IMT-GT (Indonesia-Malaysia-

Thailand Growth Triangle). With geographical similarities and similar environmental challenges, sub-regional cooperation allows member countries to respond collectively to issues such topics industrial effluent pollution, which often have transboundary impacts.

IMT-GT is a concrete example of geographically proximity-based sub regionalism in Southeast Asia. A derivative of ASEAN cooperation, the initiative was formed by Indonesia, Malaysia and Thailand to accelerate economic development in underdeveloped regions of the three countries. One of the main focuses is sustainable development which includes addressing environmental issues such as waste. Waste management has become a central issue due to its far-reaching impact on health, ecosystems, and the economy. Poorly managed waste can cause pollution, threaten biodiversity, and undermine the quality of life in the region.

Initiatives such as the *Green City Action Plan* (GCAP) within the IMT-GT framework are a tangible manifestation of applying the concept of sub-regionalism in addressing environmental challenges. Through GCAP, the three countries are working together to develop greener and more sustainable cities, while addressing the increasingly pressing issue of waste. By sharing experiences and policies, IMT-GT member countries can improve the effectiveness of waste management and realize more inclusive and environmentally friendly development. Sub-regionalism is a tool to strengthen economic integration and a practical framework for addressing transnational environmental issues, such as waste, that require a collective and coordinated response.

1.6.2 Green Economy Concept

According to the *United Nations Environment Programme* (UNEP), a *green economy* is an economic activity that encompasses the production, distribution and consumption of goods and services that aims to improve people's welfare in the long term, without imposing significant environmental burdens on future generations.[13] This concept focuses on achieving long-term social benefits through short-term economic actions, by promoting human welfare and reducing inequality, while minimizing environmental risks and resource scarcity. Meanwhile, according to the *United Nations Conference for Trading and Development* (UNCTAD), the *Green economy* is a sustainable economy that aims to improve a better quality of life for all people, while maintaining balance and limits in the environmental ecosystem.[14]

Applying of the *Green Economy* concept is very relevant in dealing with waste problems in the Indonesia-Malaysia-Thailand *Growth Triangle* (IMT-GT) region. Especially in dealing with waste problems which are one of the main challenges for countries in this region. Waste problems, air pollution, water pollution, climate change are cases of environmental problems that can cross national boundaries.[15] Environmental problems, especially in the case of waste, if not managed properly, can contribute to climate change, which requires an appropriate response.

[13] Direktorat Lingkungan Hidup. 2013. Kumpulan Pemikiran Pengembangan Green Economy di Indonesia 2010-2012. Kementrian PPN/BAPPENAS.

[14] Firdaus, M. A. (2023). Criticism of BIMP-EAGA Cooperation Through Green City Action Plan (GCAP) in Indonesia. . *Research Horizon*, 3.

[15] Ibid.

Within the concept of *Green Economy*, waste management in IMT-GT can be seen as part of efforts to lower environmental damage and create a sustainable green environment. This includes measures such as reducing emissions from industries, more efficient waste treatment, and using cleaner technologies. As such, IMT-GT seeks to address waste issues locally and contribute to the global goal of lowering carbon footprints and protecting ecosystems. The *Green Economy* concept enables IMT-GT countries to work together to reduce pollution and promote environmentally friendly development. *Green Economy* is not just a concept, but the cornerstone of a strategy for effective waste management, which will ultimately drive the region to become greener and more sustainable in IMT-GT.

1.7. Hypothesis

Indonesia, Malaysia and Thailand are three countries that have a close relationship and cooperation, this is evidenced by the formation of the IMT-GT sub-regional cooperation. In addition, the three countries have the same problem, namely environmental pollution due to indiscriminate waste disposal and weak government policies. GCAP is one of the strategies undertaken by IMT-GT to deal with waste cases in the three countries by supporting sustainable development. Through the implementation of GCAP, IMT-GT has facilitated synergy between member countries in handling waste and environmental management.

Researcher use the Sub-Regionalism and Green Economy concept approach to help answer the problems faced by Indonesia, Malaysia, and Thailand in dealing with waste problems through the IMT-GT Cooperation. The Sub-Regionalism concept is used to analyse the geographical proximity of the same work area, common economic and social interests, and the existence of cross-border problems

that require collective solutions. And the Green Economy concept is used to analyse the environmental issues in handling waste cases through the implementation of the GCAP program.

1.8. Research Methodology

1.8.1 Research Design

This research uses a qualitative method, which was chosen to explore in depth the facts related to the strategy and implementation of the policies studied so that researchers can understand the research process and results comprehensively. This method allows researcher to explore the various social, political, and economic dynamics that influence the implementation of these policies. According to Michael Patton and Michael Cochran, qualitative methods focus on exploring experiences in various aspects of social life and generally produce data in the form of words not numbers, which are then analyzed to understand the phenomenon under study.[16] This approach is relevant because it can provide a more contextual understanding of the issues being researched, so that the research results not only describe what happened, but also why and how it happened.

1.8.2 Research Object

The research collected data from literature, official documents, and news, which is expected to enable the researcher to collect data regarding the implementation of the *Green City Action Plan* (GCAP) program and the cooperation of the three countries in addressing waste issues in member countries.

[16] Michael Q. Patton and Michael Cochran, *A Guide to Using Qualitative Research Methodology* (Geneva, Medicins Sans Frontieres, 2002), p.2.

1.8.3 Data Collection Technique

The use of data collection techniques in this research is through literature review by referring to secondary data sources such as books, journals, online media, magazines, annual reports of related institutions or agencies, documents and several sources from internet sites in the form of official web pages of various regional, national and international institutions. The data is then be selected and synthesized after being collected, and then sorted by topic.

1.8.4 Data Analysis Technique

The data analysis technique uses a descriptive analysis method, namely describing the problems regarding the implementation of the Green City Action Plan (GCAP) program and the cooperation of the three countries in overcoming waste issues in member countries. In analyzing the data, the author went through several stages, namely data collection, data reduction, data presentation, and drawing conclusions. The researcher then draws conclusions that answer the researcher's questions that have been formulated, and summarizes them into one in the Conclusion of Chapter 4.

1.9 Writing Systematic

The systematic writing of this research consists of 4 sub-chapters:

CHAPTER I: INTRODUCTION

This chapter consists of three sub-sections. First, the researcher describes the context of the study to provide an initial overview of the issues studied. Second, the researcher aims to deepen the understanding of the *Green City Action Plan* (GCAP) implemented by IMT-GT. GCAP is designed to identify potential actions and

projects that support creating of a sustainable city model by 2036. This research focuses on the implementation of GCAP as a solution to addressing waste issues in the IMT-GT subregion. Third, the researcher outlines the benefits of this research, both theoretically and practically. Theoretically, this research is expected to be a reference for future researchers interested in studying similar topics, as well as enriching readers' scientific insights regarding the implementation of GCAP in the IMT-GT region.

CHAPTER II: THE IMPACT OF SEWAGE POLLUTION IN INDONESIA, MALAYSIA, THAILAND AS AN ENVIRONMENTAL ISSUE

This chapter analyzes cases of environmental pollution in Southeast Asia, particularly in the subregions of Indonesia, Malaysia and Thailand. This research not only discusses how environmental pollution occurs, but also explores the impacts on the ground. In addition, the researcher outlines the various challenges that third countries face in dealing with waste issues, including policy constraints, limited infrastructure, and lack of public awareness. This analysis aims to provide a comprehensive understanding of the environmental conditions in the IMT-GT region.

CHAPTER III: INDONESIA-MALAYSIA-THAILAND COOPERATION - GROWTH TRIANGLE IN HANDLING WASTE CASES THROUGH GCAP

This chapter analyzes the history of the formation of IMT-GT, which was formed to help accelerate the subregion's economic transformation. Then researchers will analyze the formation of GCAP, starting from the environmental conditions of the

IMT-GT subregion to the problems and solutions to environmental problems offered by GCAP. This GCAP will also be a forum for the completion of the IMT-GT Vision 2036 which IMT-GT designs as a guide to a sustainable model in 2036. To provide the results of the implementation, we will explain in more detail the concepts and data results obtained in the research.

CHAPTER IV: CONCLUSION

In closing, Chapter IV contains a summary of the main issues and the results of the analysis based on the theories of Sub-Regionalism and *Green Economy*. With the conclusion, researchers hope that this paper is easy to understand and can be a review for researchers.