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DEFORESTATION AND LAND CONVERSION: A DEEP DIVE INTO MALAYSIA

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Abstrak: *Dengan pesatnya pertumbuhan Malaysia sebagai negara berkembang, urbanisasi dan perluasan pertanian telah menjadi elemen kunci yang berkontribusi signifikan terhadap penggundulan hutan dan alih fungsi lahan di wilayah tersebut. Akibatnya, banyak dampak dari penyebab ini muncul dengan cepat dalam beberapa tahun terakhir, seperti erosi tanah dan perubahan iklim. Untuk mengatasi masalah lingkungan ini secara komprehensif, reboisasi, keterlibatan organisasi nonpemerintah dalam masalah ini, dan promosi skema sertifikasi oleh pemerintah Malaysia dapat dilihat sebagai strategi mitigasi.*

Kata Kunci: *Deforestasi, Konversi Lahan, Penyebab, Tantangan, Strategi Mitigasi*

Abstract: This paper discusses the issue of deforestation and land conversion and the challenges that arise in Malaysia. With the rapid growth of Malaysia as a developing country, urbanisation and agricultural expansion have been the key elements that significantly contribute to deforestation and land conversion in the region. As a result, many effects of this cause have emerged quickly in recent years, such as soil erosion and climate change. In order to comprehensively overcome this environmental problem, reforestation, involvement of non-governmental organisations in this issue and promotion of certification schemes by the Malaysian government can be seen as mitigation strategies.

Keywords: Deforestation, Land Conversion, Causes, Challenges, Mitigation Strategies

INTRODUCTION

Deforestation and land conversion are critical environmental problems that have profound implications for ecosystems, the domestic economy, and society. Deforestation, as defined by the National Geographic Society (n.d.), is "the purposeful clearing of forested land." Furthermore, land use conversion is defined as "a change in the function of a portion or the entire region from its original use as designed to new activities that have a detrimental impact on the environment and land potential" (Y Harewan et al., 2023). These transformations have a range of ecological and socioeconomic repercussions, encompassing the destruction of forests and the conversion of natural landscapes into agricultural or urban regions. Even though these actions can significantly contribute to the country's development and economic growth, they are also deeply intertwined with many irreversible effects, such as the country's economic development, environmental sustainability, and social dynamics.

Malaysia is a country in Southeast Asia that is well-known for its vast tropical rainforests and abundant wildlife. A large portion of Malaysia's land area was historically covered in forests. Even though forests still cover about 54% of the total land area in Malaysia, deforestation and land conversion are emerging problems due to the country's quick development. Malaysia's rainforest harbours about 3 to 50 million species of flora and fauna, including many endangered species such as the Malaysian tiger and Bornean orangutan. It is assumed to be one of the oldest and among the most biologically diverse in the world, along with other rainforests in Southeast Asia (World Wildlife Fund, n.d.). Rainforests in Malaysia currently still majorly cover two-fifths of the Malaysian peninsular and two-thirds of Sarawak and Sabah (Lockard & Ooi, n.d.). However, due to the quick development and rapid economic growth of the country, mainly since the 1980s, the exploitation of natural resources has been trending to be used in various sectors. Malaysia was ranked the second largest exporter of palm oil in the world, with a value of $17.7B exported in 2022 alone (*Palm Oil in Malaysia | The Observatory of Economic Complexity*, n.d.). As one of the most significant palm oil exports in the world, the Malaysian government have prioritised palm oil production to fulfil demands from home and foreign markets. With that, the issue of deforestation and

land conversion has escalated in Malaysia in recent years and large areas of Malaysian rainforests, especially in West Malaysia, where some of the largest surviving tropical rainforests, have had to be cleared. Deforestation and land conversion have posed a critical problem to Malaysia's environmental landscape over the past few decades, mainly caused by the growth of commercial farming, urbanisation and logging. Furthermore, these activities have had significant implications for Indigenous populations that rely on the forest habitat to support their livelihoods, cultures and traditions. The loss of forest land threatens their way of life and weakens their access to basic daily necessities that are essential towards their survival.

According to Global Forest Watch (n.d.), Malaysia has lost 2.93 Mha (million hectares) of forest from 2002 to 2023 (Table 1). Over the two decades, the total area of humid primary forest in Malaysia has reduced by 18%. Malaysia lost 5.19 Gt (gigatonne) of Carbon Dioxide emissions and 8.89 Mha of tree cover between 2002 and 2023, a 30% decline since 2000. These statistics reflect the critical situation of deforestation and land conversion in Malaysia. The causes and effects of this emerging problem must be addressed in order to design comprehensive government policies and strategies to mitigate the problem.

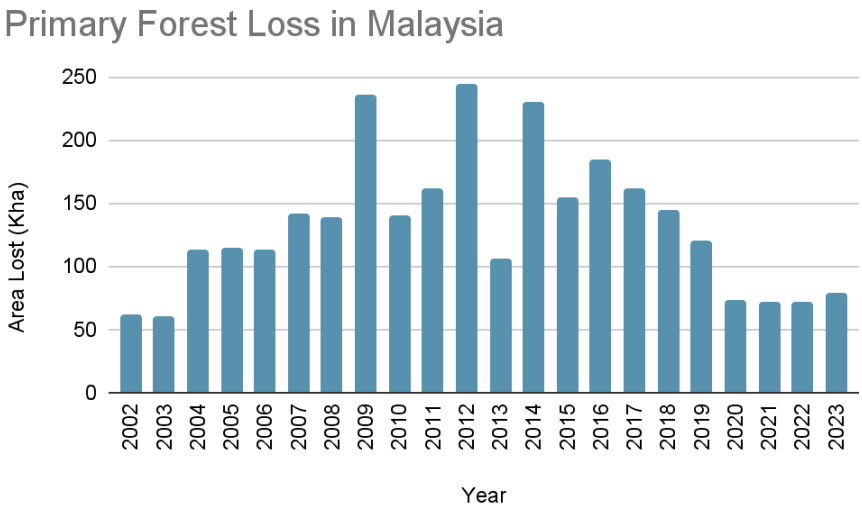

Figure 1. Primary Forest Loss in Malaysia from 2002 to 2023

Source: Global Forest Watch, n.d.

Causes of Deforestation and Land Conversion

Urbanisation is one of the root causes of deforestation and land conversion in Malaysia. According to the European Environment Agency (n.d.), urbanisation is defined as the increase in the number of people living in towns and cities. This phenomenon occurs when people move from rural (countryside) to urban (town and cities) regions, and it typically happens when a nation is still in its development stages. In urban areas, there is a high density of human population as well as human structures such as houses, commercial buildings, roads, bridges, and railways. Rapid urban growth necessitates the expansion of cities and towns into previously forested regions, facilitating deforestation and land conversion. With the development of Kuala Lumpur, the capital of Malaysia, one of the world's busiest ports of entry and a major transportation and communication hub, it has been regarded as one of the top ten cities in Asia. As the Malaysian government focuses on urban development in the heart of the nation, a significant amount of resources and land are set aside by local authorities for reconstruction and high-impact urban development, making Kuala Lumpur increasingly attractive to Foreign Direct Investment (FDI), hence further driving urbanisation in the area (Yassin et al., 2022). When urbanisation occurs, the rate of urban sprawl increases. Urban sprawl is defined as a region between urban and rural locations. This inclination may lead to several significant socioeconomic events, including financial imbalances across societies, local governments, and economic discrimination. It has also been noted to impact the livelihood of the locals. Several claims were made in certain studies that suggest urban sprawl reduces open space and amenities, raises taxes and public service costs, increases traffic density, and causes urban flooding (Karakayaci, 2016). The rate of urban sprawl in urban areas in Malaysia, such as Kuala Lumpur, the capital of Malaysia, has been growing by about 1% every year.

This phenomenon is constantly criticised by the Malaysian public because of the unrestricted development by the government, where more land is being converted from agricultural land to developed land. In addition to the previous claim, forests surrounding the urban area's edge are also constantly being destroyed to build expressways to connect rural areas to urban areas. The Kuala Lumpur-Karak and Kuala Lumpur-Seremban Motorways were the only two motorways and

motorways in Kuala Lumpur until 1990. However, as of 2019, there were already 26 motorways and highways totalling 754.4km in the Kuala Lumpur region, and this rapid increase has contributed significantly to the city's rapid urbanisation over the last three decades. Dense networks of highways and expressways, especially the trans-district and regional expressways, have accelerated migration to the city's outskirts, where more likely forested regions will need to be converted and developed into residential areas. (Yassin et al., 2022). Malaysia's rise as an agriculture-based economy underwent an immediate shift and became industrialised. Malaysia's Carbon Dioxide (CO2) emissions skyrocketed due to deforestation and forest degradation brought on by urbanisation, industry, and population growth. In 2007, Malaysia's per capita CO2 emissions amounted to around 7.32 tonnes, although the average CO2 emissions worldwide were only 4.63 tonnes (Begum et al., 2020). Figure 2 shows Malaysia's CO2 emissions (tonnes per capita) and per capita GDP (RM 1000). Per capita GDP and CO2 emissions were RM4824 and 0.44 tonnes in 1960, respectively, and increased to RM40,063 and 8.09 tonnes in 2016. Nonetheless, Gross Domestic Production (GDP) growth shows a consistent linear pattern, where per capita GDP and CO2 emissions increase with time (World Bank, n.d.).

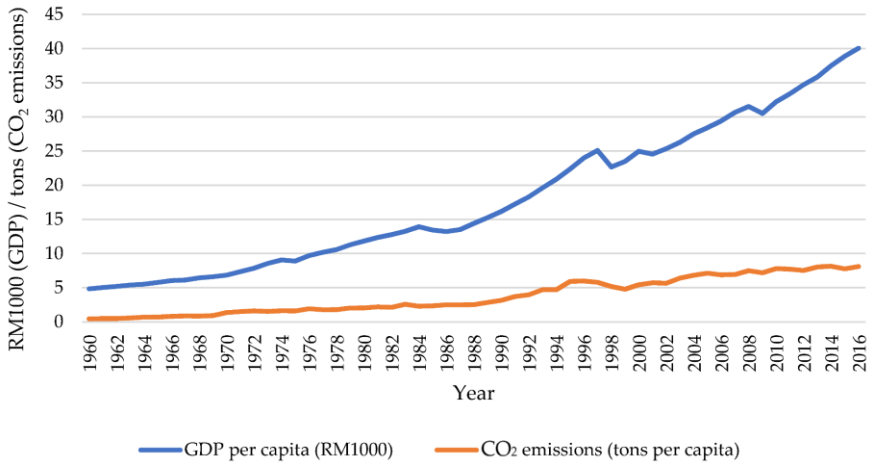

Figure 2: Per capita GDP (RM1000) and CO2 emissions (tons) in Malaysia

Source: World Bank, 2015

Secondly, agricultural expansion also plays another factor in deforestation and land conversion. Over the past few decades, large areas of Malaysia's forest land have been converted into agricultural land, primarily for rubber and palm oil plantations. Since the start of the twenty-first century, palm oil's significance has grown significantly; by 2007, 30% of the world's vegetable oil output and 60% of all oils and fats exported were made from palm oil (Carter et al., 2007, pp. 307-314). Despite these expansions contributing significantly to Malaysia's economic development, they have also led to substantial environmental consequences.

As Malaysia is the world's largest exporter of palm oil, the need for domestic and international agricultural goods has propelled this development, which has posed significant environmental difficulties despite contributing to the nation's economic prosperity. With the increase in demand for palm oil, palm oil cultivation has been a prominent agricultural activity to keep up with the demand. To meet this high demand, Malaysia has prioritised expanding its oil palm plantations, particularly in the Borneo regions of Sabah and Sarawak. According to Birruntha and Ahmad (2024), a special fund with an allocation of RM100 million has been established by the Ministry of Finance and Agriculture and Commodities Ministry under the Malaysian government for the Smallholder Palm Oil Replanting Financing Incentive Scheme (TSPKS 2.0). This fund is eligible for private small palm oil plantation owners with a total land area of 5900 hectares in efforts to boost agriculture productivity and production. With many incentives and benefits from the Malaysian government, plantation owners are keen to develop more non-agricultural land to be used as plantations, causing land conversion to take place. A study done by Shevade and Loboda identified palm oil plantations as the most significant factor influencing the conversion of forests from 1988 to 2012. During that period, industrial oil palm plantations replaced forests in Malaysia, with the majority of this expansion (>99%) taking place within 1 km of oil palm plantations that had been previously developed (2019). The conversion of forests to monoculture plantations severely affects the ecosystem and jeopardises some species' existence. The increase in oil palm plantations has resulted in habitat loss for several endangered species that are exclusive to the Malaysian rainforests, including the Malayan tiger and Bornean orangutan.

RESULTS AND DISCUSSIONS

Effects of Deforestation and Land Conversion

Deforestation and land conversion bring irreversible implications to the environment, and one of them is climate change. The clearing of forests with the aim for agricultural activities and urbanisation, as mentioned above, as well as other purposes, releases substantial amounts of greenhouse gases (GHGs) into the atmosphere, directly affecting the global climate. Deforestation is one of the factors for climate change; it contributes 12-15% to global warming with the release of carbon dioxide into the atmosphere and presents further carbon dioxide storage. Globally, almost 42 million km^2 of tropical, temperate and boreal regions are covered by forests. As deforestation takes place, it increases surface temperature and generates excessive carbon dioxide emissions, significantly contributing to the emerging problem of climate change (Ali et al., 2014, pp. 51-60). An ongoing temperature analysis done by NASA Earth Observatory observed that the average global temperature on Earth has increased by at least 1.1 degrees Celcius since 1880. Even though it might not seem significant, a one-degree shift in global temperature is substantial as a great amount of heat is required to warm the oceans, atmosphere, and land masses (NASA Earth Observatory, n.d.). Prof Dr Fredolin Tangang from the Academy of Sciences Malaysia mentioned that the possibility that the Malaysian climate will become warmer compared to 2023 is very high. Observations have been made by the Malaysian Meteorological Department that the temperature has reached an alarming level where the highest daily temperature stays between 35 degrees Celcius and 37 degrees Celcius for a minimum of three days in a row in February 2024 (Vethasalam, 2024).

The rise in daily temperature will also cause an increase in air conditioning and refrigerant usage as an alternative for people to escape from the scorching weather outdoors due to global warming. Air conditioning and refrigerants usually include compounds such as Chlorofluorocarbon (CFC), Hydrochlorofluorocarbons (HCFC), Hydrofluorocarbons (HFC), and Hydrocarbons (HC). Even though these compounds adhere to The Kyoto Framework Convention on Climate Change to minimise the damage done to the environment, they not only still contribute to environmental degradation that leads to climate change but also directly affect

human health (Nawaz et al., 2018, pp. 83-94). In addition, the effect of climate change can also be seen through the struggles of Malaysia's coastal fishermen. With the rise of the temperature, the weather becomes somewhat unpredictable, and local fishermen frequently face storms that not only damage their humble fishing boats but also put their fishing efforts in vain due to solid storms hitting their boats and losing half of what they managed to catch. Other than affecting the livelihood of the fishermen, climate change also puts the country's economy on the line as the Malaysian populace has relied heavily on the fishing industry as a source of animal protein for many years (Lee, 2024).

Deforestation and land conversion also bring another serious implication: soil erosion. With the rise of urbanisation in urban areas, there is an increase in the burden on rural and agricultural land because of the continuous consumption of energy, exhausting air and water and invasion of natural land to undergo land conversion and all of these elements significantly enhanced soil erosion. The roots of the tree play a crucial role in binding the soil together so that the wind and rain do not remove it. When trees are cut down, roots die. Hence, the soil will be loose and transport grease, sediment, and harmful contaminants to stormwater, which will wind up as raw water in the reservoir where the quality of groundwater will be harmed (Yassin et al., 2022). Soil erosion can occur slowly and relatively unnoticed, or it can happen rapidly, causing the loss of topsoil. Soil erosion can take place when the soil has very little to no vegetative cover of plants and crop residues, and it can result in wind erosion, which sandblasts immature seedlings or transplants, harming crops. This will cause harm to farmers who utilise agricultural land to plant their crops by affecting their agricultural productivity (Balasubramanian, 2017). Moreover, the conversion of developed land into impervious surfaces alters the developed land's weather-absorbing ability. This will lead to natural disasters such as landslides, flash floods, and many more life-threatening events (Yassin et al., 2022). In 2014, five states in Malaysia were affected by a deadly flood, and the cause of the flood was related to heavy rain in the region and high deforestation rates in the states. It is said that selective logging caused the degradation of a forest's capability of holding onto water, nor the diminished ability of oil palm plantations

to absorb water, as they have less ground cover and root growth than do wild forests (Butler, 2015).

In addition, the forest is a crucial aspect of the livelihoods of Indigenous communities. These communities engage in a variety of activities such as hunting, fishing, harvesting wild fruits and medicinal herbs, and practising evolving agricultural activities. Their everyday lives and cultural traditions are tightly linked with these customs. Due to deforestation and land conversion, natural resources are depleting. The reduction in these resources not only affects their daily practices but also has socio-economic implications, which affect not only the community but also Malaysia as a whole. The loss of forest cover results in fewer fish in the rivers, fewer animals to hunt, and fewer fruit and vegetable crops available for these communities to harvest. Their economic stability and food security are directly impacted by this. Moreover, many plants with medicinal properties also diminish, and biodiversity is lost. Indigenous communities depend on traditional medicine to meet their medicinal needs, and when medical plants are destroyed, they become more vulnerable to illnesses and other health problems. With the scarcity of these plants, communities are forced to rely heavily on external clinics in the city, and these prescripted medical supplies are costly, further taxing their already limited financial resources. The absence of forest resources such as food, medicine and building materials impoverishes the native population, especially Indigenous populations located in East Malaysia, Sabah and Sarawak. Not only do these communities face a lack of resources as a result of deforestation, but they are also not correctly compensated for taking away both their way of life and their culture from large corporations that exploit their homelands. The country's long-term economy is severely harmed by the short-term commercial exploitation of deforestation, which not only destroys important ecosystems but also potential forest products. As Malaysia’s economies continue to grow, it is anticipated that Malaysia will continue to deplete its forest reserves and may eventually need to import wood from temperate places like the United States, Russia, and Canada (Ahmad Zaini, 2005, pp. 261-265). Deforestation not only strips off natural resources essential to the livelihood of the Indigenous populations, but it also directly causes a decline in Indigenous population and culture. The number of bats

has drastically decreased as a result of the destruction of forests caused by forbidden logging. Since bats are a naturally occurring way for fruit crops to be pollinated, when a forest is illegally cleared, it directly removes a food source and reduces the bat population's ability to pollinate the larger forest area, which significantly negatively impacts Indigenous communities' food security. Hence, specific communities are currently required to pollinate fruit trees manually. Due to the bat population's decline in providing a natural way of managing insect populations, pesticide use has increased. The growth in the usage of pesticides further escalates the issue and makes it harder to maintain wildlife and the leftover rainforests (*The Impacts of Rainforest Deforestation in Malaysia*, n.d.). The cultural aspect of deforestation and land conversion on Indigenous tribes are also profound, where rainforests are closely attached to indigenous peoples' spiritual and cultural identities. The natural forest serves as the foundation for many sacred locations, customs, and traditional knowledge, as well as many different languages, songs, and stories, which greatly contribute to the cultural heritage that is closely related to the forests and their inhabitants. The loss of forests equates to the deterioration of generational traditional knowledge and the loss of cultural heritage, which might result in a loss of identity and communal cohesiveness. As a result, deforestation and land conversion deeply affect the livelihoods, socioeconomic and cultural aspects of Indigenous tribes located around Malaysia.

Mitigating Strategies

In order to overcome the problem of deforestation and land conversion, the Malaysian government can implement sustainable agriculture practices. There have been efforts to address this problem, such as the Heart of Borneo (HoB) initiative, which has been launched in cooperation with the Indonesia and Brunei governments. It is a project that fosters transboundary cooperation between these three states in facilitating environmental protection and preservation and improving sustainable development that simultaneously contributes to the well-being of civilians on the island (Malaysian Sustainable Palm Oil, n.d.). The involvement of non-governmental organisations is also essential to mitigate this problem. NGOs such as Roundtable on Sustainable Palm Oil (RSPO) facilitate and promote global change in order to make palm oil production and use sustainable practices in the

palm oil agricultural industry. The Malaysian government can collaborate with these NGOs to promote sustainability, which would reduce the destroyed areas of forests and use them as agricultural land. Bodies such as the Malaysia Forest Fund (MFF) actively create and execute strategies for preserving forests by putting the National REDD Plus Strategy into practice (Malaysia Forest Fund, n.d.). With the extension of non-governmental bodies coming together to reserve Malaysian forests and promote sustainable agricultural practices, this effort will be able to increase productivity in recovering forested regions. In addition, as the RSPO is certified by the Malaysian government, the government can also promote certification schemes to encourage more sustainable and responsible production practices that can reduce the damage being done to the environment.

There are development planning strategies in Malaysia that have been implemented so far; each narrowed down to focus on strategies for forest management. Practices for Sustainable Forest Management, or SFM, have been effectively applied in Malaysia. The country prioritises economic growth and development alongside social and environmental considerations, as well as the preservation of its natural resources. As a component of SFM, Malaysia has implemented the Selective Management System (SMS) since 1978. In order to maximise sustainable production, reforestation, economic harvesting, and usage, a management regime must be chosen for this system. A strict system is in place in Malaysia to guarantee a regular supply of timber. Plans for forest management provide boundaries for the areas to be harvested and the amounts to be collected, controlling and regulating the forest resources. The Seventh Malaysian Development Plan has been actively monitoring the yearly timber quota allocation since 1996. Taking into account the net area of production forest inside the Permanent Forest Reserve, this monitoring aids in maintaining a balance between the extraction and production of timber. Every five years, each state reports to the National Land Council on its compliance with the yearly felling coupes granted to it (Chiew, 2009).

Article 74(2) of the Federal Constitution of Malaysia states that forest management is the responsibility of each state. The executive power of the federal government is mostly restricted to advising, assisting, training, and supporting the

states' forestry-related research and development. Therefore, every state has the power and autonomy to establish laws, rules, and forestry policies that apply to its borders (Chan et al., 2023, pp. 799-804). Under the current political framework, the three Malaysian regions—Peninsular Malaysia, Sabah, and Sarawak—each have their own set of laws and regulations governing their forests. The National Forestry Act 1984 (Amended 2022) and the Forestry Policy of Peninsular Malaysia are the legislative framework that governs forestry in Peninsular Malaysia. The Sabah Forest Policy, Forest (Timber) Enactment 2015, Forest Rules 1969, and Sabah Forest Enactment 1968 are all practised in Sabah. The Sarawak Forest Policy, the Sarawak Forests Regulations, and the Sarawak Forests Ordinance 2015 (Cap.71) are enacted by Sarawak. These differing laws and policies that are particular to a given region specify the rules and recommendations for forest management within that area, allowing authorities to enforce the laws accordingly (KeTSA, 2021). Efforts by the Malaysian government to implement various policies have been seen as effective as the European Union's (EU) commissioner for environment and fisheries has praised Malaysia's efforts in reducing levels of deforestation to an "unrivalled low". Prior to 2017, there had been a notable decrease in the loss of forests in Malaysia and Indonesia, according to Global Forest Watch (GFW), an online platform that allows for almost real-time forest monitoring.

Additionally, according to GFW, Malaysia lowered the loss of primary forests by 70% between 2014 and 2020 as a result of government and corporate actions that positively influenced the progression of local deforestation (*Malaysia, a Strong Example of Deforestation Success Story*, 2023). Furthermore, Malaysia's Plantation and Commodities Minister, Johari Ghani, has also recognised that Malaysia is committed to certified sustainable commodities production by emphasising the EU Deforestation-Free Regulation (EUDR) and the Malaysian Sustainable Palm Oil (MSPO) certification program. He underlined that the MSPO certification plays an important role in bolstering efforts to fulfil EUDR criteria. The requirements include worldwide sustainability standards, such as traceability, the absence of deforestation, legal land titles, and appropriate labour practices (*EU Hails Malaysia's Efforts to Reduce Deforestation*, 2024). Hence, the regulations that have been enforced by the Malaysian government can be seen as effective

through the supporting data, which highlights the decrease in deforestation activities in Malaysia.

Furthermore, the Malaysian government can also invest in reforestation and ecological restoration projects that can help recover degraded lands. Even though this project might be prone to heavy financial implications, it is a good investment in the long term as it can also enhance the biodiversity in forests. The Malaysia Forest Fund (MFF) Malaysia launched its Forest Conversation Certificate (FCC) in May 2024, which serves as a non-market mechanism for directing private sector funding into national forest conservation initiatives. Minister of Natural Resources and Environmental Sustainability, Nik Nazmi Nik Ahmad, stated that companies can use FCC projects that have been verified by independent verification bodies to meet environmental, social, and governance (ESG) reporting requirements under the biodiversity topic. Verification and accountability standards, application and validation procedures, and qualified programs are all included in the FCC Protocol document. The preservation of already-existing forests, the expansion of Permanent Reserved Forests, and the restoration of the ecological integrity of damaged forests are among the eligible programs. Additionally, a 10% income tax deduction from the total income of businesses that take part in FCC operations has been allowed by the Ministry of Finance (MOF). The Ecological Fiscal Transfer (EFT), which directs funding to state governments for the preservation and protection of forests and biodiversity, will be strengthened under the FCC. The federal government has also allocated RM200 million in total for EFT for the year 2024 (Tan, 2024). Last but not least, the Malaysian government should also regulate and restrict urban development to slow down the rate of urban sprawl in the country. The problem of soil erosion and degradation can be reduced when agricultural and forestry regions are not turned into urban areas, and this promotes sustainable agriculture and preserves soil fertility, thus promoting agricultural productivity and food security in Malaysia.

CONCLUSIONS

In conclusion, deforestation and land conversion present complicated issues that require a balanced approach to the nation's growth and forest conservation. Rapid urbanisation, agricultural expansion, and palm oil production have placed considerable pressure on Malaysia's rich biodiversity and natural resources, contributing to substantial forest loss and land degradation in Malaysia. While Malaysia continues to prioritise urbanisation, agricultural expansion, sustainable practices, and sensible legislation are essential to protecting Malaysia's unique biodiversity and guaranteeing the livelihood of its citizens. The implications of deforestation and land conversion, such as soil erosion, pose severe consequences for the environment, agriculture, and water quality, and they have to be addressed as they could eventually lead to many life-cost natural disasters. Climate change is another effect of deforestation and land conversion. Significant volumes of greenhouse gases (GHGs) are released into the atmosphere when forests are cleared for urban growth and agricultural expansion, leading to the modification of climatic patterns and the acceleration of global warming as a result of these emissions. Furthermore, deforestation also causes devastating effects on indigenous communities, undermining their livelihoods, food security and cultural heritage.

Coordinated local, national, and international initiatives are needed to address these problems and promote a future in which environmental integrity is not sacrificed for economic advancement. Efforts by the Malaysian government in collaborating with other nations, such as the Heart of Borneo (HoB) initiative, which brings together Malaysia, Brunei and Indonesia, have brought a positive outlook in mitigating the issue of deforestation and land conversion in Malaysia. Moreover, NGOs such as the Roundtable on Sustainable Palm Oil (RSPO) are also crucial in putting pressure on the local government to promote certification schemes in agricultural sectors in Malaysia in order to facilitate sustainable practices. Non-governmental bodies such as the Malaysia Forest Fund (MFF) also launched its Forest Conversation Certificate (FCC) in collaboration with the Malaysian government earlier this year. Local governmental regulations in addressing deforestation are also highly essential, and the Malaysian government has effectively applied Sustainable Forest Management (SFM) and Selective

Management System (SMS). The nation’s federal constitution has also underlined the responsibilities of forest management of each state, and the main three regions in Malaysia, Peninsular Malaysia, Sabah and Sarawak have their own policies which regulate forest conservation and management respectively. Malaysia has made advances in reducing land conversion and deforestation, but there are still issues to be resolved, such as striking a balance between environmental preservation and economic growth. To maintain the sustainable management of Malaysia's forests, the public and commercial sectors as well as local communities must keep up their efforts and collaborate to effectively mitigate this environmental issue.

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