Malaysian Journal of Sustainable Environment
Vol.12.No.1 (2025) 97-112
doi: 10.24191/myse.v12i1.1620

TREE PRESERVATION ORDER (TPO) ACT 172 AND THE PROPERTY OWNERS LAND VALUE: A PRELIMINARY REVIEW

Mohammad Fitry Md Wadzir[1]*, Mohd Hasrol Haffiz Aliasak[2], Mohd Farid Sa'ad[3], Najma Azman[4], Muhammad Hilmi Mohamad @ Masri[5]
***Corresponding Author**
[1,2,3,4,5]Programme of Estate Management, Department of Built Environment Studies and Technology, College of Built Environment Studies, Universiti Teknologi MARA, Perak Branch, 32610, Seri Iskandar, Perak, Malaysia

fitrywadzir@uitm.edu.my, haffiz677@uitm.edu.my, mohdf011@uitm.edu.my, najma245@uitm.edu.my, muhamadhilmi@uitm.edu.my
Received: 10 June 2024
Accepted: 06 August 2024
Published: 31 March 2025

ABSTRACT

Trees are vital to our existence that helps balance the demands of the environment and human needs. Due to urban area's rapid development, trees are being cut down and causing environmental problems. The Town and Country Planning Act of 1976 established the Tree Preservation Order (TPO), which the preservation of trees in Peninsular Malaysia. Although this type of restriction is more advantageous to society overall, it negatively affects property values and causes suffering for landowners. Thus, this paper aims to explore the Tree Preservation Order (TPO) and the property owners right regarding land value against Tree Preservation Order that local governments have gazette in accordance with the Town and Country Planning Act of 1976. The purpose of this study is to ascertain the value of Tree Preservation Order (TPO) in urban areas as well as the effects on property owners land value in relation to implementation of Tree Preservation Order (TPO). The literature from journals and publications was extensively read in order to conduct this study. The literature reviews highlight how crucial it is to preserve trees because doing so will lessen their negative effects on the ecosystem and related to the land value can be expounded. This study may widen public and property owner knowledge

about the granting of Tree Preservation Orders (TPO) and raise local government awareness of the value of tree preservation and the readiness to provide compensation rights if the public demand it.

Keywords: *Tree Preservation Order, TPO, Land Value, Environment, Urban Heat Island*

INTRODUCTION

Trees are natural resources that have a crucial impact on the environment and all living organisms on the planet. Trees possess unique qualities, significance, and advantages that can greatly influence the urban environment, particularly in terms of improving social and liveability aspects, visual and aesthetic appeal, health benefits, environmental values, and economic worth (Ibrahim et al., 2019). Tree covers largely cools the air by providing shade to surfaces like concrete and asphalt, which prevents heat from being stored and reduces the urban heat island effect. Tree cover has the ability to lower temperatures by releasing water vapour through transpiration, which increases the amount of heat that is converted into latent heat rather than sensible heat (McDonald et al., 2021). They offer numerous advantages to organisms in our universe. Urbanisation has led to a significant rise in deforestation as trees are being cleared to accommodate new development. The creation of a new urban environment is beneficial as it has the potential to enhance the overall well-being of individuals. Nevertheless, throughout selfishness, individuals frequently disregard the environment. Consequently, numerous natural areas have been deforested to make way for urbanisation and infrastructure projects (Ibrahim et al., 2019). The urgent need to preserve trees has been closely associated with regions experiencing uncontrolled urban expansion, leading to heightened temperatures in metropolitan areas. Local governments have a substantial duty to safeguard trees within their territories (Ramly et al., 2016). The Tree Preservation Order (TPO) established by Act 172 (Town and Country Planning Act 1976), outlines the process for conserving trees in Malaysia. A Tree Preservation Order (TPO) is implemented to save a selected tree from being cut down, especially when its removal will significantly affect the surrounding region and the public's overall enjoyment of it (Ramly et al., 2016). Nevertheless, it is crucial to acknowledge that legislative limits

can also yield beneficial outcomes, such as safeguarding natural resources or conserving historical landmarks. The ultimate effect of legislative limitations on property values will be contingent upon the precise details of the regulation and the current state of the local market.

Nevertheless, the implementation of habitat protection regulations has a favourable effect on the overall quality and attractiveness of the area. Additionally, the landowner also enjoys the advantages of these regulations. However, it is important to note that such restrictions might impose financial burdens and limitations on the landowner's activities (Jaeger, 2006). The kind of land restriction will yield advantageous consequences, but it will also result in negative effects (Katz & Rosen, 1987). Moreover, Jaeger (2006) stated that it is widely recognised that a legal restriction on a piece of land will decrease its value. Tree Preservation Orders (TPO) impose restrictions on the property, resulting in a decrease in its land value.

LITERATURE REVIEW

Urban Development and Issue

Urban" is characterised in various courses relying upon who is characterising it. In Malaysia the 2020 Population and Housing Census by Department of Statistics Malaysia (DOSM, 2023) characterised urban as "gazette area and its adjacent built-up area and the combination of these two areas has a population of 10,000 or more during the 2010 Census" or area-specific development that has been identified by its population of at least 10,000 people and At least 60 percent of the population aged 15 and above are engaged in non-agricultural activities.

Malaysia has experienced a quick urbanisation process in recent decades which has been associated with the social and economic transformation. Since the British colonial rule (1887-1956), the town in Malaysia has risen step by step and expanded in area size which turned into the developing urban area and metropolitan centre (Yeoh & Rschman, 1980). According to Sendut (1964) in Yaakob et al. (2010), the British intervention on the Malaya mainland around the 1850s has caused the

spreading of urban development and town dispersion in Malaya until the colonisation of Malaya by the British.

Malaysia, being a developing nation, is encountering substantial obstacles in achieving sustainable development. The rapid population growth and the expansion of urban areas to accommodate homes, businesses, and other facilities resulted in a decline in the number of green spaces necessary to maintain a balance between urban development and the preservation of green spaces in order to provide a healthy environment (Nawar et al., 2022).

The development in the city especially were interfere with political and bribe issue are the reasons trees are felled thus affect the surrounding (Ramly et al., 2016). Due to its growing population, Malaysia is currently experiencing a difficult time managing environmental issues that appear to be very aggressive (Norfakhirah & Muhammad, 2022). One of the main factors contributing to environmental problems is the emission of greenhouse gases (GHG), which include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and fluorinated gases. Other environmental problems include deforestation, land degradation, oil pollution in the sea, water pollution, waste issues, and climate change (Haliza & Rahman, 2020; Norfakhirah & Muhammad, 2022).

Urban Heat Island

Urban Heat Island (UHI) was a phenomenon where cities were relatively warmer than the surrounding rural or suburban areas. It was related to the effect of urbanisation which was caused by human activity on the energy balance of the environment (Ramakreshnan et al., 2019). UHI, which refers to elevated air or surface temperatures and the rise in temperature in cities that can be measured as temperature differences in comparison to the rural area, is a common phenomenon in most cities that has developed over time (Harun et al., 2020; Ramakreshnan et al., 2019). Additionally, UHI was characterised by higher temperatures in urban areas compared to similarly elevated non-urban settings that were brought on by human activity (Rahaman et al., 2022).

Urbanisation technically poses a threat to environmental problems. Whereas, due to accelerated development and construction, such as in Malaysia, urbanisation has accelerated a number of environmental problems

in most developed countries (Isa et al., 2020; Naserikia et al., 2019). The cooling effects that plants provide through evapotranspiration are lost when jungles are exploited by being removed. According to the Yusof et al. (2019), it was found that the group of trees contributes to a greater reduction in Land Surface Temperature (LST) which a decrease in Land Surface Temperature (LST) of 6°C at the major road, indicating a greater presence of heritage trees in comparison to individual heritage trees placed near compact buildings. Where Harun et al. (2022) mentioned, UHI was a result of energy transfers between the atmosphere and the land surface. The land cover and urban surface that will be impacted are the green and water surfaces that can increase humidity through evapotranspiration as well as buildings and trees that shade the ground surface, which play a significant role in UHI distribution. While UHI also affected city dwellers through heat and pollution from vehicles, air conditioning use, and other activities of city residents. It influences the occurrence of the phenomenon of climate change. Vegetation species have a notable impact on decreasing the land surface temperature (LST) and preventing the creation of urban heat island (UHI) which the historic trees have a significant influence on the vegetation factors that contribute to the thermal cooling impact, owing to their distinctive tree traits (Yusof et al., 2017).

Roles of Local Authorities

The administrative system in Malaysia is structured into three primary levels of hierarchy: the Federal Government, State Government, and Local Government. The Local Government consists of local administrations responsible for specific territories. The Act 171 (Local Government Act 1976) provides a comprehensive framework for local councils. The local authorities are the main entities responsible for administering community development in many developing countries, including Malaysia. Due to their proximity to the public and their focus on participatory development, local governments in Malaysia have been assigned a crucial role in community development (Thenmolli & Kuppusamy, 2013).

Under the authority granted by the Act 172 (Town and Country Planning Act 1976), the local authorities established by the Act 171 (Local Government Act 1976) have the main responsibility for the health, sanitation, amenities, and overall welfare of their residents, as well as

the administration of matters related to land planning and development control (Ainul & Bashiran, 2009). The Local Government Act of 1976 delineates a variety of activities that local councils are authorised to do. This encompasses both obligatory functions and those that are up to the ruler's choice. Nevertheless, local authorities can acquire further responsibilities through the enforcement of the legislation.

The expansion of urban areas also leads to an increase in the problems, requirements, and intricacies associated with urban administration, resulting in a new set of challenges that necessitate an enhancement in the capacity and capability of Malaysian local authorities (Zakaria et al., 2010). Local authorities are governmental entities that provide urban services to the public in order to enhance the efficiency of managing their administrative jurisdiction (Singaravelloo, 2008). The local authority shall conduct a comprehensive assessment of the tree removal application and meticulously explore all possibilities to conserve the trees prior to granting approval for their removal (Nik et al., 2022).

Tree Preservation Order

In Malaysia, the local authority implements specific strategies and practices to safeguard trees through its planning and management efforts. The Tree Preservation Order in Malaysia was instituted in 1995 under Section 35 of the Town and Country Planning Act 1976. This addition, known as Part VA, outlines the Tree Preservation Order and the procedures for safeguarding trees under the act. The Tree Provision Order (TPO) outlined in Section 35 grants significant authority to local planning authorities, enabling them to provide adequate protection and secure the preservation of trees through planning and design control (Nik et al., 2017; Ramly et al., 2016). According to Nik et al., (2019) Tree Preservation Order (TPO) has been implemented through the Town and Country Planning Act 1976 where it grants local authorities the authority to safeguard individual trees or groups of trees from being cut down, trimmed, pruned, uprooted, harmed, or destroyed particularly important during construction or because of development activities.

Typically, rules must be published in the Government Gazette in order to gain legal validity. According to Nik et al. (2020), the states in

Peninsular Malaysia have effectively implemented the legislation by officially publishing the TPO Rules in the form of state gazette which is Selangor in 2001 through "*Kaedah-kaedah Perintah Pemeliharaan Pokok 2001. Jil. 54 No. 7 Tambahan No. 3 Perundangan", Perak in 2011 through "Kaedah-kaedah Perintah Pemeliharaan Pokok Negeri Perak 2011. Jil. 64 No. 26 Tambahan No. 21 Perundangan"* and Melaka in 2017 through *"Kaedah-kaedah Perintah Pemeliharaan Pokok (Negeri Melaka) 2017. Jil. 61 No. 18 Tambahan No. 10 Perundangan"*.

The Tree Preservation Order under Act 172 (Town and Country Planning Act 1976) initially received praise and garnered significant attention from individuals and organisations involved in tree-related matters, including landscape architects, contractors, researchers, municipalities, and private nurseries. This was evident at the Workshop on Tree Management in Urban Areas in Malaysia, which took place at FRIM in December 1996 (Nik et al., 2017).

According to the guideline published by the Department of National Landscape Malaysia (2023), there are seven categories of trees that require protection. These include rare or uncommon trees, endemic species, endangered species, trees with aesthetic value, historical trees, protocol trees, and trees in conservation zones. The categorization of trees must be safeguarded, as illustrated in Table 1.

Table 1. The Classifications of Trees

Type	Description
Rare	Trees are listed in rare trees but have a volume that is still under control
Endemic	Trees are listed in tree species found only in certain places.
Endangered	Trees are listed in species of trees that are hard to find and the amount is decreasing.
Aesthetical Value	Tree species that have a natural beauty or the aesthetic value of the shingles or as a physical barrier to bad scenery or other values.
Historical Value	Tree species consisting of any tree species grown or planted in conjunction with a ceremony and associated with historical value
Protocol Tree	Tree species planted by national leaders and dignitaries in conjunction with a state-of-the-art ceremony.

Trees In Conservation Area	Includes all trees defined in other written laws and trees located within the declared territories of forest reserves, watersheds, hills conservation areas and other similar areas.

Source: Author

The Tree Preservation Order (TPO) provisions are outlined in Part VA Section 35A through Section 35H of the Act 172 (Town and Country Planning Act 1976). This order prohibits the cutting down of any tree or group of trees without written authorization and compliance with requirements imposed by the local authorities. It also mandates the planting and replacement of trees in accordance with the guidelines established by the local authorities. The Tree Preservation Order (TPO) has been widely enacted and executed in numerous developed nations as a means of safeguarding trees, particularly those designated for preservation (Nik et al., 2017).

As a result of this provision, any activities that could cause harm to the trees specified in the act are prohibited in the affected area. In other words, the land cannot be developed by cutting down the trees. As per section 35A (4), anyone who fails to comply with the Tree Preservation Order (TPO) will be liable to a fine of up to RM100,000, imprisonment for a maximum of 6 months, or both. If any individual feels harmed by the order, they have the option to appeal to the Appeal Board within one month of receiving the order, rejection, or imposition of restrictions. This penalty applies when the act disrupts the affected area or when activities on the land harm the preservation of trees, including cutting them down for development purposes. The implementation of a Tree Preservation Order (TPO) prohibits the felling of any tree, including those on private land. This restriction, as stated by Katz & Rosen (1987), can have both positive and negative effects on the actions of property owners regarding their land. Jaeger (2006) observed that environmental protection has both positive and negative effects. The positive effect is the preservation of the environment, while the negative effect is the burden placed on landowners. These restrictions result in costs for the landowners and limit their actions on their own property, despite the fact that they still receive some benefits. Additionally, he noted that the imposition of restrictions on the piece of land can have a detrimental impact on its value. Put simply, the Tree Preservation Order will cause the value of the land to decrease because it restricts the cutting down of trees on the individual's property.

Land Value

It is well acknowledged that legislative restrictions on a piece of land can have a negative impact on its value (Jaeger, 2006). Tree preservation orders, which impose restrictions on the land, will lead to a decrease in the land's value. Regulations and land use laws can decrease the quantity of land accessible for residential or other purposes, hence affecting the supply in urban land markets. In simpler terms, more restrictions are likely to lead to a reduced amount of land available for development (Michael & Palmquist, 2009). This type of legislation may necessitate adjustments to the land proportions when land development requires construction on restricted land.

Stringent land use laws, such as those that impose limits on development density, had an adverse effect on land values. Properties subject to more stringent land use rules suffered lower land values compared to properties subject to less restrictive restrictions. The adverse effects are mostly caused by the limitations on development density and height, which restrict the possible uses and development opportunities for the property. The restriction on property values could have adverse effects on housing affordability and the allocation of environmental benefits and costs (Severen & Plantinga, 2018).

Land values can be adversely affected by legal constraints, such as land use regulations, especially when these restrictions are stringent and ambiguous. The effect of land title restrictions on property values might differ based on the precise characteristics of the restriction and the prevailing conditions in the local market. Imposing such a constraint may necessitate certain measures that can yield beneficial outcomes, but it may also result in undesirable consequences (Katz & Rosen, 1987). The restriction implemented to protect the environment has positive effects on the amenity. However, it also imposes costs and limitations on the landowner's actions on the land, while still allowing them to benefit from it (Jaeger, 2006; Walsh, 2017).

Stringent land use rules, such as zoning laws and environmental regulations, can detrimentally affect property values, especially in metropolitan areas. Uncertainty regarding regulations, particularly the permitting procedure for development, might adversely affect property

values (Jaeger, 2006). Policymakers should evaluate the economic implications of land use laws, taking into account both the costs and benefits. It is important to recognise that restrictions that are adaptable and can be anticipated may be more successful in achieving a balance between environmental preservation and economic development (Jaeger, 2006; Severen & Plantinga, 2018).

According to the Act 172 (Town and Country Planning Act 1976) specifically Section 35D of the Tree Preservation provisions, if the property owner of the land covered by a Tree Preservation Order can demonstrate that they have experienced a decrease in the value of their land, they have the right to seek compensation from the local planning authorities. According to the provision, the Tree Preservation Order (TPO) is a limitation that might lead to a decrease in the value of the land. The landowner who experienced such a decline in the value of their land could be compensated for such issues.

Summary of Literature Review Pertaining to the Tree Preservation Order (TPO)

The literature pertaining to Tree Preservation Order (TPO) that has been reviewed is summarised in table 2. This statement highlights the need of the Malaysian Tree Preservation Order (TPO) in order to fulfil its objective of promoting environmental sustainability in the country despite the negative impact towards the land value due to the provision.

Table 2. Summary of Literature Review Pertaining to the Tree Preservation Order (TPO)

No.	Publication	Summary Statement Related on The TPO
1	Town and Country Planning Act 1976 (Act 172)	Tree Preservation Order (TPO) Section 35A – 35H
2	(Nik et al., 2022)	Local authority shall conduct a comprehensive assessment of the tree removal application and meticulously explore all possibilities to conserve the trees prior to granting approval for their removal
3	Nik et al. (2019)	Tree Preservation Order (TPO) has been implemented through the Town and Country Planning Act 1976 where it grants local authorities the authority to safeguard individual trees or groups of trees from being cut down, trimmed, pruned, uprooted, harmed, or destroyed particularly important during construction or because of development activities.

4	Yusof et al. (2019)	Group of trees contributes to a greater reduction in Land Surface Temperature (LST) which a decrease in Land Surface Temperature (LST) of 6°C at the major road, indicating a greater presence of heritage trees in comparison to individual heritage trees placed near compact buildings
5	Severen & Plantinga (2018)	The restriction on property values could have adverse effects on housing affordability and the allocation of environmental benefits and costs
6	Yusof et al. (2017)	Vegetation species have a notable impact on decreasing the land surface temperature (LST) and preventing the creation of urban heat island (UHI) which the historic trees have a significant influence on the vegetation factors that contribute to the thermal cooling impact, owing to their distinctive tree traits
7	Walsh (2017)	Costs and limitations on the landowner's actions on the land, while still allowing them to benefit from it
8	Nik et al., (2017)	TPO has been widely enacted and executed in numerous developed nations as a means of safeguarding trees
9	Ramly et al. (2016)	Local governments have a substantial duty to safeguard trees within their territories
10	Thenmolli & Kuppusamy, (2013)	Local governments in Malaysia have been assigned a crucial role in community development
11	Michael & Palmquist (2009)	Restrictions are likely to lead to a reduced amount of land available for development
12	Jaeger (2006)	Legislative restrictions on a piece of land can have a negative impact on its value

CONCLUSION

The evidence above clearly demonstrates the significant significance that trees play, particularly in urban areas experiencing ongoing rapid development. Implementing Tree Preservation Order (TPO) regulations in a given area can effectively mitigate environmental issues and provide several benefits to humans, despite the potential decrease in property value resulting from land use restrictions. Consequently, the owners are entitled to seek appropriate compensation from the local planning authorities for the decrease in the value of their land caused by the damage due to the restriction itself.

ACKNOWLEDGEMENT

This paper is derived from an ongoing research study. The authors would like to extend their genuine gratitude to Universiti Teknologi Mara (UiTM)

for offering material assistance.

FUNDING

There is no funding for this research.

AUTHOR CONTRIBUTIONS

All authors have read and approved the final manuscript.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

Act 171- Local Government Act 1976 (2023).

Act 172- Town And Country Planning Act 1976 (2021).

Ainul, J. M., & Bashiran, B. M. A. (2009). Powers of the local authority in regulating land planning and development control: Whither control. *Planning Malaysia Journal*, 7, 97–112.

Department of National Landscape Malaysia. (2023). *Official website of the National Landscape Department.* Jabatan Landskap Negara Malaysia. https://www.jln.gov.my

Department of Statistics Malaysia [DOSM]. (2023). *Department of Statistics Malaysia Official Portal.* https://www.dosm.gov.my/v1/.

Haliza, U., & Rahman, A. (2020). Malaysian Youth and Environmental Sustainability: A Review. *Perspektif Jurnal Sains Sosial Dan Kemanusiaaan 12*(2) 43-54. http://doi.org/10.37134/PERSPEKTIF.

Harun, Z., Azhar, N. I., Abbas, A. A., Lotfy, E. R., Al-Furjan, M. S. H., &

Etminan, A. (2022). Variation of the Urban Heat Island Intensity over One Year in Putrajaya, Malaysia. *Journal of Mechanical Engineering (JMechE), 19*(3), 167-188. https://doi.org/10.24191/JMECHE.V1913.19802.

Harun, Z., Reda, E., Abdulrazzaq, A., Abbas, A. A., Yusup, Y., & Zaki, S. A. (2020). Urban Heat Island in the Modern Tropical Kuala Lumpur: Comparative Weight of the Different Parameters. *Alexandria Engineering Journal, 59*(6), 4475–4489. https://doi.org/10.1016/J.AEJ.2020.07.053.

Ibrahim, P. H., Farina, H., Pauzi, Z., Nazifah, N., & Masri, M. (2019). The Implementation of Tree Preservation Order in Urban Environment: Public and Local Authority Perception. *Journals.Iium.Edu.My, 9*(1), 94–111. https://journals.iium.edu.my/kaed/index.php/japcm/article/view/337.

Isa, N. F., Kasmin, H., Yahya, N., Rahim, M. A., & Ghazaly, Z. M. (2020). Green Roof Performance Under Malaysia Tropical Climates: A Review. *Indonesian Journal of Electrical Engineering and Computer Science, 18*(2), 614–621. https://doi.org/10.11591/IJEECS.V18.I2.PP614-621.

Jaeger, W. K. (2006). The effects of land-use regulations on property values. *Environmental Law, 36*(1), 1–52.

Katz, L. F., & Rosen, K. T. (1987). The interjurisdictional effects of growth controls on housing prices. *The Journal of Law & Economics, 30*(1), 149–160.

McDonald, R. I., Biswas, T., Sachar, C., Housman, I., Boucher, T. M., Balk, D., Nowak, D., Spotswood, E., Stanley, C. K., & Leyk, S. (2021). The tree cover and temperature disparity in US urbanized areas: Quantifying the association with income across 5,723 communities. *PLOS ONE, 16*(4), e0249715. https://doi.org/10.1371/journal.pone.0249715

Michael, J. A., & Palmquist, R. B. (2009). Environmental Land Use Restriction and Property Values. *Vermont Journal of Environmental Law,* 11. https://heinonline.org/HOL/Page?handle=hein.journals/vermenl11&id=443&div=&collection=.

Naserikia, M., Shamsabadi, E. A., Rafieian, M., & Filho, W. L. (2019). The Urban Heat Island in an Urban Context: A Case Study of Mashhad, Iran. *International Journal of Environmental Research and Public Health, 16*(3). https://doi.org/10.3390/IJERPH16030313.

Nawar, N., Sorker, R., Chowdhury, F. J., & Mostafizur Rahman, M. (2022). Present Status and Historical Changes of Urban Green Space in Dhaka City, Bangladesh: A Remote Sensing Driven Approach. *Environmental Challenges*, 6, 100425. https://doi.org/10.1016/J.ENVC.2021.100425.

Nik, A. N. M. S., Noriah, O., & Wan, T. W. A. (2017). A Review on the Needs to Improve Malaysian Tree Preservation Order (TPO) (Act 172). *Journal of the Malaysian Institute of Planners, 15*(4), 115–126. http://www.planningmalaysia.org/index.php/pmj/article/download/343/280#page=121.

Nik, A. N. M. S., Wan, T. W. A., & Shahzarimin, S. (2022). *Tree Preservation Order of Act 172: A Malaysian Legislation Towards Sustainable Urban Forests.* Urban Forestry and Arboriculture in Malaysia, 43–62. https://doi.org/10.1007/978-981-19-5418-4_3.

Nik Mohamed Sukri, N. A., Wan Ariffin, W. T., & Othman, N. (2019). Awareness and knowledge of TPO (Act 172) among construction industry professionals and local planning authority personnel in Klang Valley. *Planning Malaysia, 17*(2), 267–279. https://doi.org/10.21837/pm.v17i10.647

Nik Mohamed Sukri, N. A., Ismail, Z., Wan Ariffin, W. T., & Mohd Nordin, R. (2020). Tree Preservation Order (Act 172) adoption process within the national development planning framework. *Planning Malaysia, 18*(4), 271–286. https://doi.org/10.21837/pm.v18i14.831

Norfakhirah, N. M. H., & Muhammad, I. (2022). Environmental Issues in Malaysia: Suggestion to Impose Carbon Tax. *Asia-Pacific Management Accounting Journal, 17*(1), 65–95. https://doi.org/10.24191/APMAJ.V17I1-03.

Rahaman, Z. A., Kafy, A. Al, Saha, M., Rahim, A. A., Almulhim, A. I., Rahaman, S. N., Fattah, M. A., Rahman, M. T., S, K., Faisal, A. Al, & Al Rakib, A. (2022). Assessing the Impacts of Vegetation Cover Loss

on Surface Temperature, Urban Heat Island and Carbon Emission in Penang city, Malaysia. *Building and Environment,* 222. https://doi.org/10.1016/J.BUILDENV.2022.109335.

Ramakreshnan, L., Aghamohammadi, N., Fong, C. S., Ghaffarianhoseini, A., Wong, L. P., & Sulaiman, N. M. (2019). *Empirical study on temporal variations of canopy-level urban heat island effect in the tropical city of Greater Kuala Lumpur*. Sustainable Cities and Society, 44, 748–762.

Ramly, H., Othman, N., & Abdul Razak, R. (2016). Tree preservation order and its role in enhancing the quality of life. P*rocedia - Social and Behavioral Sciences,* 222, 493–501. https://doi.org/10.1016/j.sbspro.2016.05.140

Sendut, H. (1964). Patterns of urbanization in Malaya. *Ekistics, 17*(100), 152–157.

Severen, C., & Plantinga, A. J. (2018). Land-Use Regulations, Property Values, and Rents: Decomposing the Effects of the California Coastal Act. *Journal of Urban Economics,* 107, 65–78. https://doi.org/10.1016/j.jue.2018.07.001.

Singaravelloo, K. (2008). *Measuring performance of local authorities using composite performance index and perceived performance score* (Doctoral thesis). Universiti Putra Malaysia.

Thenmolli, V., & Kuppusamy, S. (2013). Local government and community development. *International Journal of Business, Economics and Law, 2*(2), 54–59

Walsh, E. (2017). Public versus private land use controls in England and the USA. *International Journal of Law in the Built Environment, 9*(1), 18–31. https://doi.org/10.1108/IJLBE-09-2016-0013/FULL/PDF.

Yaakob, U., Masron, T., & Masami, F. (2010). Ninety Years of Urbanization in Malaysia: A Geographical Investigation of Its Trends and Characteristics. *Journal of Ritsumeikan Social Sciences and Humanities, 4*(3), 79–101. https://doi.org/10.1007/978-1-4020-4385-7_3.

Yeoh, S., & Rschman, C. (1980). *Urbanization and Urban Growth During Colonial Rule and Independence in Peninsular Malaysia*. http://

citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.555.7981.

Yusof, N. S., Huzeima, N., Hussain, M., & Rusli, N. (2017). The Relationship of Heritage Trees in Urban Heat Island Mitigation Effect at Taiping, Perak, Malaysia/Nor Suhaida Yusof, Nur Huzeima Mohd Hussain and Noradila Rusli. *Malaysian Journal of Sustainable Environment, 3*(2). https://www.myse.my.

Yusof, N. S., Huzeima, N., Hussain, M., & Rusli, N. (2019). Analysing Street Heritage Trees Surface Temperature for UHI Mitigation Using Remote Sensing and GIS Application. *Malaysian Journal of Sustainable Environment, 7*(2), 77–95. https://ir.uitm.edu.my/id/eprint/29692/.

Zakaria, Z., Zakaria, Z., Noordin, N., & Mohamed Sawal, M. Z. H. (2010). Environmental functions provided by Malaysian local government: User's perception. *Journal of Social Sciences, 6*(2), 296–302.