Urban forest protection from the perspective of environmental law in Malaysia: issues and challenges

Assistant Professor Dr. Maizatun Mustafa

1Ahmad Ibrahim Kulliyyah of Laws, International Islamic University, Malaysia, P.O. Box 10, 50728 Kuala Lumpur, Malaysia.

Email: maizatun@iiu.edu.my

Abstract:
Within a society, ongoing urbanisation can lead to the increasing importance of urban green spaces as contributors to the quality of the urban environment and urban life globally. Forest and tree resources are known to have a wide range of socio-cultural, economic and environmental values. The value of the forest is also increasingly recognised as extending beyond rural areas and so trees must become compatible with and functional in the urban environment. At present, the emerging realization of the importance of these values has become apparent to many countries, including that of Malaysia. Upon this realization, Malaysia began to consider ways to optimize and incorporate forest values within its urban environs in a sustainable way while responding to the wide range of needs, local priorities and expectations. This paper examines the scope of urban forest and the role of urban greening in enhancing the living quality of urban populations of Malaysia. The paper is deliberately biased towards environmental issues and aims at highlighting provisions under environmental law relevant to urban forest protection. Some issues pertaining to possible challenges that can undermine the efficacy of the law are also highlighted.

Keywords:
Environmental law, Environmental protection, Urban forest, Urban forest protection.

1 Introduction

Malaysia covers a total of 329,750 square kilometres and is geographically divided into two parts, The Peninsular Malaysia and the North Bornean territories of Sabah and Sarawak. Malaysia is a multicultural and multiracial society with the current population of 27.7 million (Department of Statistics Malaysia, 2009A). Malaysia’s humid tropical location provides excellent conditions for thousands of plant species to thrive and evolve (Abidin, 1999), and places it among the 12 countries internationally recognized as possessing mega diversity (Sani, 1998). However, like many other developing countries in Southeast Asia, Malaysia has experienced extremely high rates of urbanization especially for the past 20 years when the economy undergone major changes. These
changes have led to, among other things, significant influx of rural people and migrants to urban centers, and the creation of more urban areas around the country (Aiken, 1982).

The term “urban areas” as applicable in the context of Malaysia, is defined by the Department of Statistics (Department of Statistic Malaysia, 2009B), based on the Population & Housing Census Malaysia 2000 (Department of Statistics Malaysia, 2009C), as “gazetted local authority areas with a specified population threshold and gazetted areas with their adjoining built-up areas which had a combined population of 10,000”. The present trend in Malaysia is that the rural population is on the decline, whereas the percentage of urban population is on the increase with the projection of 75 per cent by the year 2020 (Department of Statistics Malaysia, 2009A). At present, urbanisation’s main primacy in Malaysia is the three main city regions of Kuala Lumpur, George Town and Johor Bahru, around which conurbations are being formed (Federal Government of Town and Country Planning Malaysia, 2009).

While continuous urbanization is inevitable, higher concentration of people and industry in urban areas have unavoidably caused considerable issues including that of assimilative capacity and environmental quality. Among environmental threat facing cities and urban areas of Malaysia are inland water pollution due to siltation, industrial and household discharges; air pollution from industrial and motor vehicle emissions; and deforestation and other land clearing activities (Department of Environment Malaysia, 2007). For Malaysia, in its effort to enhance the quality of urban environment as promulgated by National Policy on the Environment (Department of Environment, 2002), it is important that existing environmental issues are dealt with seriously.

Indeed, various measures have been, and can be, applied to help attain these quality living objectives. For this tropical country that has bountiful forests, protecting and maintaining such forests and other green spaces are among ways of dealing with environmental quality issues. It is generally accepted that urban forest is one of the resources of an urban area. It is part of the urban infrastructure and is integral to the quality of life of its residents as can be found, for example, within the Kuala Lumpur Structure Plan (City Hall Kuala Lumpur, 2003). For Malaysia which is facing continuous environmental threats due to its rigorous economic development, urban forest would definitely provide various benefits to the community. Among social benefits of urban forest are those relating to health, employment, education, recreation, aesthetic and landscape benefits. Whereas in the context of environmental protection, urban forest and other green areas can provide the following services to urban areas of Malaysia:

- climate change and air quality improvement;
- energy savings, reduction of global warming and carbon dioxide;
- noise abatement;
- water use, reuse and conservation;
- soil conservation;
- solid wastes and land reclaimation; and
- nature conservation, wildlife habitat and biodiversity.
The importance of tree planting and green spaces within urban areas is getting more noticeable in Malaysia. This can be indicated by policy statements such as that of the National Urbanization Policy Malaysia (Federal Department Town and Country Planning Peninsular Malaysia, 2006) and the National Policy on the Environment Malaysia (Department of Environment, 2002). Nevertheless matters relating to the protection and management of urban forest are still something rather new for this country. Initial study has shown that the term “urban forest” is not applied within any existing policies and legislations relevant to the matter (Mustafa, 2008). On the other hand, it comes under the range of various disciplines such as that of urban planning, forestry and even landscaping. The issue is further compounded by the facts that Malaysia practices a federal system of government whereby natural resources and environmental related matters can come within the jurisdiction of either federal or state government (Mustafa, 2009). In other words, there can be no specific law and agency that have exclusive powers over urban forests in Malaysia, but such powers are spread within various related laws and government institutions.

Despite the complexity of the matter, it is argued that environmental law can nevertheless offer certain degree of protection to urban forest. This protection can come in various forms such as that of environmental quality enhancement, natural resources conservation, and pollution control. This paper is meant to be a preliminary study to look as possible ways in which existing environmental law in Malaysia can help towards forest protection within urban areas. At present, there exist over 30 legislations in Malaysia that are directly related to environmental protection, and some of which are relevant to that of urban forest (Mustafa, 2008). However, for the purpose of this paper, examination will be done only on selected and most relevant legislations. Firstly, the paper seeks to identify the meaning and scope of urban forest for regulation purposes. Then it will look at possible legal protection given to urban forest against environmental pollution and other harms. After that, the paper will discuss possible challenges that can undermine the efficacy of these legislations towards urban forest protection.

### 2 Scope of Urban Forestry

When delineating the issue of urban forest particularly from the perspective of urban environmental protection, it is necessary to identify the context in which “urban forest” is understood. Generally, “urban forest” can be referred to as a part of the forest found within the built environment (Food and Agriculture Organization of the United Nations, 2009). However, in this paper, this concept will be looked at from a bigger perspective based on existing policies and laws of Malaysia relevant to the subject. For this reason, terms such as “open spaces” and “green area” (Federal Department Town and Country Planning Peninsular Malaysia, 2006) will be considered to be part of urban forest.

Arguably, urban forest and environmental protection work in both ways. On one hand, urban forest, if properly managed and protected, can help improve the environmental...
quality of urban areas. For a tropical country like Malaysia, wildlife and other natural resources such as rivers and trees are integral parts of a forest. Thus, pockets of urban forests, together with natural resources and wildlife therein, provide natural and tropical elements within urban areas of Malaysia. On the other hand, the protection of urban forest from harms associated with environmental degradation is also vital to ensure that such forest are well kept to enable the city dwellers to enjoy its full benefits. In this regard, environmental law can be applied to provide protections to urban forest, whether in the forms of pollution control, natural resources conservation, or even environmental impact assessment. Environmental related legislations relevant to urban forest protection are examined below.

3 Urban Forest Protection under Environmental Legislations

As already pointed out, environmental degradation and depletion of natural resources particularly due to land clearing and other economic related activities are among major threat to urban forests in Malaysia. In many urban areas such as Kuala Lumpur and Penang, greater urbanization means that land is getting to be a scarcer resource which is increasingly sought after. In urban areas of Penang for example, many forests reserved, including hills and catchment areas are already being cleared for the purpose of development (Ngai, 1998). When forests are being cleared, it can lead to many environmental problems such as deforestation, decimation of water catchments, destruction of endangered fauna and flora, soil erosion, landslides, water pollution, sedimentation and downstream flooding.

The roles of environmental legislations here are to provide protections to urban forest against such problems, apart from helping towards its enhancement and conservation. The most relevant legislation for this purpose is the Environmental Quality Act 1974\(^2\) which deals mainly with the prevention, abatement, control of pollution and enhancement of the environment (Mustafa, 2009). Arguably, while the term “urban forest” is not specifically available within this Act, its scope is nevertheless wide enough to cover that of urban forest. This is evident from the definition of relevant terms within the Act. For example, the term “environment” is defined as\(^3\):

> “the physical factors of the surroundings of the human beings including water, atmosphere, climate, sound, odour, taste, the biological factors of animals and plants and the social factor of aesthetics”.

The term “element” in relation to the environment for the purpose of the Act is defined to mean\(^4\):

\(^{2}\) Act 127.  
\(^{3}\) Section 2 of the Environmental Quality Act 1974.  
\(^{4}\) Section 2 of the Environmental Quality Act 1974.
“any of the principal constituent parts of the environment including water, atmosphere, soil, vegetation, climate, sound, odour, aesthetics, fish and wildlife”.

From the definitions above, it is argued that, despite the general nature of the Act, its scope is extensive to cover urban forest, being part of the environment and natural resources, for purposes that include health, safety and welfare of the public. The same argument applies when looking at the definition of the word “pollution” which is defined by the Act to mean 5:

“any direct or indirect alteration of the physical, thermal, chemical, or biological properties of any part of the environment by discharging, emitting, or depositing environmentally hazardous substances, pollutants or wastes so as to affect any beneficial use adversely, to cause a condition which is hazardous or potentially hazardous to public health, safety, or welfare, or to animals, birds, wildlife, fish or aquatic life, or to plants or to cause a contravention of any condition, limitation, or restriction to which a licence under this Act is subject”.

Within the Act, various environmental strategies introduced are relevant towards urban forest protection. One of which is environmental impact assessment (EIA) as provided under section 34A. Generally, EIA is considered essential for the purpose of sustainable development particularly in attaining the acceptable balance of environment protection and economic development.

Specifically, section 34A requires that any person intending to carry out proposed activities is required to submit a report containing an assessment of the impact the activity is likely to have on the environment. There are 19 activities classified as “prescribed activities” that require the submission of the EIA report for the purpose of section 34A. The list of these activities is provided in the Environmental Quality (Prescribed Activities)(Environmental Impact Assessment) Order 1987 6. They include activities relating to agriculture; airports; drainage and irrigation; land reclamation; fisheries; forestry; housing; industry; infrastructure; ports; mining; petroleum; power generation and transmission; quarries; railways; transportation; resort and recreational development; waste treatment and disposal; and water supply 7.

From the list above, it is contended that, there are a number of activities that may cause harm to urban forest or its surroundings if not properly regulated such as that of forestry or housing development. For these activities, possible adverse effect can occur in various forms. They include water logging, salt water intrusion, alteration of river features, soil erosion and sedimentation. For these reasons, EIA is important to ensure that not only the development of a particular project is properly located and planned, its environmental degradation is also avoided or minimised. Here, EIA can help ensure, among other

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5 Section 2 of the Environmental Quality Act 1974.
6 PU (A) 362/1987.
things, that urban forest or natural resources therein are not disturbed or polluted, and that
deterrence and mitigating measures are identified to protect existing ecosystems and
communities. Apart from that, EIA is also applicable to assess activities that are
indirectly affecting urban forest. They include that of waste disposal that may cause
pollution through the discharge of effluent. Strict penalty is imposed by section 34A for
those who failed to submit the EIA report, or to those who failed to abide by conditions
stipulated in the report namely a fine up to RM100000, or jail up to five years, or to both.

Another relevant strategy under the Environmental Quality Act 1974 is that relating to
pollution control. Under this Act, urban forest can be protection against pollution that
may come through various sources. For instance, section 24 deals with the control of soil
pollution and restricts any person from polluting any soil or surface of any land.
According to clause (2) of section 24, a person is deemed to pollute any soil or surface of
any land if he does any of the followings:

- he places in or on any soil or in any place where it may gain access to any soil any
  matter whether liquid, solid or gaseous; or
- he establishes on any land a refuse damp, garbage tip, soil and rock disposal site,
  sludge deposit site, waste-injection well or otherwise used land for the disposal of
  or a repository for solid or liquid wastes so as to be obnoxious or offensive to
  human beings or interfere with underground water or be detrimental to any
  beneficial use of the soil or the surface of the land.

Arguably, this section can be applied to protect urban forestry against pollution such as
from non-point discharges of a liquid wastes. The same provision may also be applied to
landfill owners, or any person who discharged wastes onto any urban forest and caused
such wastes to produce leachate that leaks and cause pollution to any water resources
within such forest. Under section 24, any person who is found guilty may be liable to a
fine of up to RM100 000, jail of up to five years, or to both.

Apart from soil pollution, the Act is also relevant to protect water resources within an
urban forest through section 25. It is contended that, being a tropical country, forests,
including that within urban areas, play an important role for Malaysia as water catchments
for the purpose of water supply. Any activity that disturbs urban forests may cause
disruption to water catchment and consequently affecting water availability. Under section
25, any person is restricted from emitting, discharging or depositing any environmentally
hazardous substances, pollutants or wastes into any inland waters. The scope of “inland
waters” is very wide to include “any reservoir, pond, lake, river, stream, canal, drain,
spring or well, or any part of the sea above the low water line along the coast, or any
other body of natural or artificial surface or subsurface water”\(^8\). Penalty imposes on any
person who is found guilty of committing an offence under this section will be a fine of
up to RM100000, jail for up to five years, or to both.

Another possible protection that can be given by the Environmental Quality Act 1974 is
that relating air pollution control, particularly due to open burning that causes haze. In

\(^8\) Section 2 of the Environmental Quality Act 1974.
Malaysia and elsewhere, haze, which is caused by the presence of a large number of particles suspended in the air, is a form of poor air pollution that affect health and wellbeing of the public (Sani, 1998). In the context of environmental quality protection, there is an interrelation between urban forest protection and air pollution control. Within cities and urban areas, forest and other green areas are pertinent in helping to minimize the effect of air pollution, notably from motor vehicle emissions and that of industries. However, activities involving the burning of forest areas, that are meant to provide new areas for housing, agricultural, industrial and other purposes, are major contributor towards the haze phenomenon (Department of Environment Malaysia, 2007). In order to deal with the haze issues, the Act introduces section 29A on the control of activities relating to open burning. This section imposes a complete ban on “open burning” by strictly prohibits any person from causing open burning on any premises, and any land. The penalty imposes by this section is a fine of up to RM500 000, and a jail term for five years, or both. Perhaps, this provision is not directly concerned with urban forest protection. However, it is argued that, the impact of such prohibition may deter possible clearance of urban forests and other urban green areas, and consequently help protect their wellbeing and that of natural resources therein.

While the Environmental Quality Act 1974 concerns mainly with environmental pollution control, the most important legislation in Malaysia on forest protection is the National Forestry Act 1984. This Act was enacted to provide for the administration, management and conservation of forests and forestry development within the states of Malaysia. Among the most relevant provisions on urban forest protection are sections 7 and 10 that empower the state government to constitute any land a “permanent reserved forest” and to classify these reserved forests under various classifications. They include:

- timber production forest under sustained yield;
- soil protection forest;
- soil reclamation forest;
- flood control forest;
- water catchment forest;
- forest sanctuary for wild life;
- virgin jungle reserved forest;
- amenity forest;
- education forest;
- research forest; and
- forest for federal purposes.

Once a forest land has been gazetted as a permanent reserved forest, various protections can be given to such forest. For example, under section 15 (1), any person is prohibited from taking any forest produce from a permanent reserved forest except under the authority of a licence. Penalty provided for any person who contravene this section is a fine not exceeding RM500000 and to imprisonment for a term between one to twenty

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9 The Environmental Quality Act (Amendment) 1998, Act 1030, s.3.
10 Act 313.
years and imprisonment\textsuperscript{11}. Apart from that, offensive littering of reserved forest is also an offence under section 83 of the Act, namely to create an objectionable stench or degrades the beauty or the appearance of property or detracts from the natural cleanliness or safety of property. Among actions that constitute offensive littering under section 83 includes discarding any rubbish, trash, garbage, debris or other refuse; or draining of mining sludge, industrial effluent, sewage or the drainage from contaminated sources. Penalty imposed for offences committed this section is a fine not exceeding RM10000 or to imprisonment for a term not exceeding three years or to both.

Indeed, provisions within the National Forestry Act 1984 are very relevant in providing protection to forests including that within urban areas. For example, within Kuala Lumpur, there exist three reserved forests namely the Bukit Nanas Forest Reserves, Bukit Sungai Puteh Forest Reserve and Sungai Besi Forest Reserve. These residual forests are Kuala Lumpur’s very important areas of natural environment but at the same time are facing threat of development. Thus, provisions on permanent reserved forest are pertinent for the purpose of their protection.

4 Issues and Challenges

Examination here has shown the importance of environmental legislations in Malaysia in providing various protections to urban forest. However, like many other developing countries, common internal issues faced when enforcing these laws can seriously undermine their efficacy. Among these issues include that of manpower capacity, adequate funding, strictness of enforcement, and availability of implementation’s requisites. Additionally, external issues such as problems arising from the inherent fragmentation of the federal system, conflict of environmental authorities, and conflict of laws are other notable challenges faced by Malaysia. Being a federal system of government, possible clashes of laws may arise since urban forest protection and management cut across various sectors. For the same reason also, legislations such as the Environmental Quality Act 1974 cannot be relied upon in providing a full environmental protection to the urban forest. This is due to the fact that, despite being the most important environmental law, matters relating to natural resources conservation and urban planning relevant to urban forest come under the scope of other legislations. Thus, having different laws dealing with aspects of urban forest protection may cause possible conflicts among these laws, or among agencies enforcing them.

Another challenge faced is that of the conflict of policies particularly between economic development and environmental protection. Being a developing country that strives to achieve the status of a developed nation in the near future (Mohammed, 1993), economic development is therefore given prominence particularly under the country’s New Development Policy (Jabatan Perdana Menteri, 1991). The quest for economic growth has however involved the utilization of a great portion of the environment and natural resources, including that of forest. In order to respond to the demand for environmental protection and natural resources conservation, Malaysia began to treat environmental

\textsuperscript{11} Section 15(2) of the National Forestry Act 1984.
issues more seriously notably through the enactment of the Environmental Quality Act in 1974. However, it is a complicated task for Malaysia in coordinating the otherwise conflicting policies of environmental protection and economic development. There is always a strong pressure upon the government to meet economic expectations, which, in certain cases, has the upper hand over environmental protection (Sahabat Alam Malaysia, 2001).

One specific example of the possible clashes in policy and law can be found within the implementation of the EIA under section 34A of the Environmental Quality Act 1974. This issue relates to the facts that different authorities are in-charged of the whole EIA process. In any situation, a project proponent must submit the EIA report to the Department of Environment for approval before the commencement of the project. The Department of Environment, being an agency established to enforce the Environmental Quality Act 1974, has the power whether to approve the EIA report or otherwise. On the other hand, the power to approve the commencement of the project lies ultimately upon a different agency, namely the approving authority. In Malaysia, there are different types of approving authorities that has the power to approve any development project depending on the nature and geographical location of such project. These authorities include the National Development Planning Committee for the Federal Government sponsored projects; the State Executive Council for state government sponsored projects; the various local authorities or Regional Development Authorities with respect to planning approval within their respective areas; and the Ministry of Trade and Industry for industrial projects. This is where possible collision may occur. Such collision may not simply be confined to a jurisdictional clash but also a clash of economic and other interests when these agencies have different set of policy objectives with one another.

Similar example can be found within the application of section 7 of the National Forestry Act 1984. Whereas a state government is empowered to constitute any land as a “permanent reserved forest”, the actual legal meaning of the concept of “permanent reserved forest” does not carry the meaning of reservation in perpetuity. There is in fact a possibility for the excision of land from the permanent reserved forests as provided in section 11. Arguably, this further demonstrates the issue pertaining to possible conflict between economic development and urban forest protection. Specifically, by virtue of section 11, the state authority can excise such land on the following grounds:

- where it is no longer required for the purpose for which it was classified; and
- where it is required for economic use higher than that for which it is being utilized.

The second justification above for excision is the point of contention here on what constitute “higher economic use”, and who has the final say over such decision. For urban areas of Malaysia, especially areas that are facing greater demand on land such as those within Kuala Lumpur or Penang, this provision might pose a threat to urban forest protection. This is particularly threatening considering Malaysia’s aggressive

\[^{12}\text{Section 11(1) of the National Forestry Act 1984.}^\]
development strategies that cause harms to natural resources, including that of urban forests (Ngai, 1998).

5 The Way Forward and Conclusion

Malaysia already recognized the importance of urban forest in enhancing the environmental quality of urban areas apart from providing esthetic values to the cities. Thus, from the perspective of urban development and environmental quality enhancement, it is vital that continuous attention is given to the importance of urban forest protection. In this regard, environmental law has been identified by this paper as an important mean in providing such protection. The paper already discussed various provisions relevant to urban forest protection that can be found within the existing environmental legislations in Malaysia. They include that relating to pollution control, quality enhancement and even forest conservation. However, while environmental law may be one of the most suitable mechanisms towards urban forest protection, there are underlying issues that need to be resolved. The paper has revealed possible issues that can undermine the efficacy of the law on the matter. They include that arising from internal problems, conflicts of laws and institutions as well as that of policies. While findings in this paper are not meant to be extensive and comprehensive, they are nevertheless important in highlighting challenges within urban forest protection that require further examination. For Malaysia, existing issues and their complexity should not be considered as stumbling blocks hindering effective application of the law on urban forest. On the other hand, Malaysia must put efforts to comprehend these and other challenges and move towards overcoming them. Arguably, if these challenges are met, and with commitments given towards the betterment of urban forest protection, it is possible that Malaysia’s objectives of sustainable and quality urban living environment can be achieved.

6 References


