

A Comparative Study on EIA process in Malaysia, West Australia, New Zealand and Canada

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Abstract

The Environmental Impact Assessment (EIA) has become an essential tool in promoting sustainable development and environmental protection since it was formally introduced by National Environmental Policy (NEPA) in 1969. The acceptance and application of EIA as a key tool in ensuring green development was overwhelming and has reflected positive feedbacks since its first introduction to the world community. The implementation of the EIA in various countries differs from one another as each country customised their own EIA process to cater their local development. This paper highlights the essentials of Environmental Impact Assessment and the EIA processes that have been adapted in four countries namely, Malaysia, West Australia, New Zealand and Canada. The three developed countries have been chosen because they share the same legal system as Malaysia which is the common law. The objective of this paper is to analyse the differences and the similarities between the EIA processes in the four chosen countries. The analysis was carried out by utilising a comparative study which was achieved via literature review. The comparative study reveals the similarities and differences of each EIA process implemented in the four countries. Conclusively, the four countries possessed few similarities such as each country has their own legal instrument, a governing body responsible in administering their local EIA process and incorporates public participation in the EIA process. However, the Canadian EIA process has a more notable EIA process between the four EIA processes, whereby, it possesses the most elaborate process which involves public participation at every level and takes up to 365 days for the EIA assessment.

Keywords: Environmental Impact Assessment (EIA); EIA process; comparative study

Abstrak

Penilaian Kesan Alam Sekitar (EIA) telah menjadi alat utama untuk menggalakkan pembangunan mampan dan perlindungan alam sekitar sejak diperkenalkan secara rasminya oleh *National Environmental Policy* (NEPA) pada tahun 1969. Penerimaan dan penggunaan EIA yang sangat menggalakkan sebagai alat utama dalam memastikan pembangunan hijau telah mendapat reaksi positif sejak pertama kali diperkenalkan kepada komuniti dunia. Pelaksanaan EIA di pelbagai negara berbeza daripada satu sama lain kerana setiap negara mempunyai EIA yang tersendiri yang telah diubah suai mengikut pembangunan tempatan. Kertas kerja ini membincangkan kepentingan Penilaian Kesan Alam Sekitar dan proses EIA yang telah diadaptasi oleh empat Negara iaitu Malaysia, Australia Barat, New Zealand dan Kanada. Tiga negara maju ini telah dipilih kerana tiga Negara ini mempunyai sistem undang-undang yang sama dengan Malaysia iaitu *Common Law*. Objektif kertas kerja ini adalah untuk menganalisis perbezaan dan persamaan antara proses EIA yang dilaksanakan di keempat-empat negara tersebut. Analisis ini telah dijalankan dengan menggunakan kajian perbandingan yang telah dicapai menggunakan kajian literatur. Kajian perbandingan ini mendedahkan persamaan dan perbezaan setiap proses EIA yang telah dilaksanakan di keempat-empat negara. Kesimpulannya, empat negara ini mempunyai beberapa persamaan seperti setiap negara mempunyai instrumen undang-undang yang tersendiri, badan kerajaan yang bertanggungjawab dalam pentadbiran EIA tempatan dan menggabungkan penyertaan awam di dalam proses EIA. Walau bagaimanapun, proses EIA di Kanada dilihat lebih menonjol berbanding proses EIA di negara lain kerana proses EIAnya yang paling rumit. Di Kanada, proses EIAnya menggabungkan penyertaan awam di setiap tahap dan mengambil masa sehingga 365 hari untuk penilaian EIA.

Kata kunci: Penilaian Kesan Alam Sekitar (EIA); proses EIA; kajian perbandingan

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■1.0 INTRODUCTION

The increase of environmental protection awareness campaign worldwide has heightened the number of efforts taken to spread the awareness of caring for the environment locally [1]. The awareness of sustainable development and environmental protection in Malaysia has first begun when the Malaysian Government agreed and signed the first global environmental protocol which is the Agenda 21 [1]-[2]. The commitments installed by the Malaysian Government under the Agenda 21 are seen through various policies such as the Local Agenda 21 applied in selected areas and also the five year development scheme which anticipate the country's development planning and monitoring systems [1]-[2].

These efforts have multiplied the growth of the local awareness for environmental protection and sustainable development in Malaysia. Moreover, the impact of environmental awareness has become more evident when the implementation of Environmental Impact Assessment (EIA) started to multiply in various part of the world namely in developed and also in developing countries. Malaysia has become one of the numerous developing countries that are currently active in applying various efforts to promote sustainable development and environmental protection [1]. In this paper, the vital information regarding the Environmental Impact Assessment (EIA) has been discussed following an analysis on the EIA process in four countries. A comparative study of EIA process adapted in Malaysia, West Australia, New Zealand and Canada is also included as an integral part of the analysis.

■2.0 ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

Following the Second World War, a rise in the environmental movement has begun within the American society. This transformation was ignited when the book 'Silent Spring' was published by an American writer, Rachel Carson in the year 1962 [3]. The book discusses on the consequences of polluting the environment and has spurred social concerns towards the environmental protection among the American community [4]. Ogola [4] also mentioned that the raising awareness has resulted in pressure groups and became the single largest social movement within the American community. This awareness generated demand for a better patronage over the environment due to the increase of development.

Consequently, a federal statute on the environmental protection policy was introduced in respond to the current issues. The federal statute that was established by the US Government in 1969 to reciprocate the environmental movements within the local community is known as the National Environmental Policy (NEPA) [4]. This policy constitutes a foundation for United States' environmental protection policy by acting as a first form of legislation that utilises Environmental Impact Assessment (EIA) as the main environmental assessment tool [4]-[6], [8]. Environmental Impact Assessment (EIA) was first introduced to the world by the US Government through the National Environmental Policy (NEPA) in 1969 which induced the global engagement in sustainable development and environmental protection especially in industrialised countries [6]-[8]. EIA utilisation as the global policy innovation has been adopted by more than 120 countries to date [9]-[10].

From various definition of EIA by different authors, it can be grouped into two significant definitions that best define the Environmental Impact Assessment (EIA). Firstly, the EIA can be described as a proactive and systematic management tool to identify, predict, evaluate and mitigate potential adverse effects of a proposed development [11]-[12]. Moreover, EIA deliberates

social, physical, biological, health, cultural and economic impacts in assistance to decision making for the proposed development [11], [13].

Conversely, multiple authors have suggested the EIA as a legislative and comprehensive procedure that investigates holistically possible implications of a proposed development in aiming for an environmentally sound and sustainable development [6], [14]-[15]. EIA is also known as a global pre-decision tool that involves multidisciplinary participators that interacts throughout the whole process in ensuring protection towards the environment and enhancing positive impacts from a certain development [16]-[17]. Therefore, it can be concluded that the Environmental Impact Assessment (EIA) can be defined as a well-rounded management tool that is utilised to evaluate, identify and mitigate any impacts from a proposed development in an early stage to ensure that the development is sustainable and environmentally friendly.

The main aim of EIA is to assess and evaluate identified adverse impacts from a development towards the environment thus improve the quality of decision making and management of the development [18]. The EIA is known to serve two objectives which represent the long-term and short-term functions. EIA serves a long-term function by being the ultimate tool for environmental protection and sustainable development which identifies, prevents and reduces serious repercussions of a development towards the environment [19]-[21]. As for the short-term function, Kolhoff *et al.* [19] regarded that EIA is utilised also as an informed and participatory decision-making tool. This is seen in EIA where public involvement element is incorporated by adding the action of informing the community regarding actions taken for the development and also including the public participation in few phases in the EIA process.

■3.0 EIA PROCESS

The EIA process acts a process that moulds and aids a development by determining and mitigating consequences of the development towards the environment [22]. Moreover, EIA is a multi-step and interdisciplinary process that does not intend to cease or delay any development but to make it more viable and also to minimize the chances of loss or delay beforehand [22].

3.1 EIA Process in Malaysia

The vast economic development in Malaysia has urged the government to implement a regulation to set a balance between the economic development and the usage of the natural resources thus promote sustainable development and environmental protection in Malaysia [23]. In respond to this predicament, the Government of Malaysia has enacted a legal statute in the year 1974 to prevent, reduce and regulate the pollution level thus intensify the environment in Malaysia [24].

The Environment Quality Act 1974 or known also as the EQA embodies a federal environmental statute that enhances the quality of the environment through setting regulations and licensing in relation to the environment and also communicating related information to the community [24]-[27], [34]. Malaysia has officially acknowledged the Environmental Impact Assessment (EIA) under the Third Malaysian Plan with the establishment of the Department of Environment under the Environment Quality Act (EQA) [24].

The Department of Environment (DOE) is currently situated under the Ministry of Natural Resources and Environment (NRE) and holds an essential function of monitoring and administering the policies related to environmental management including all provisions under the Environment Quality Act 1974 [24], [25].

Apart from being responsible for the environmental management in Malaysia, the Department of Environment (DOE) has drafted the 'Handbook of Environmental Impact Assessment Guidelines' which was published and launched by the Ministry of Science, Technology and Environment on 30 September 1987.

The EIA Handbook compiles the steps and guidelines to prepare an EIA report to be submitted to the Department of Environment and also a list of prescribed activities [26]. Consequently, a provision under the Environment Quality Act 1974 which is the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment Order) was gazetted in November 1987 in relation to the publication of the Handbook [23], [28]-[29], [34]. The EIA Order was then made mandatory to all new developments on the 1 April 1988 [25], [28]-[30]. The 'Handbook of Environmental Impact Assessment Guidelines' has been updated and published in the latest edition which is the fourth edition in the year 2007 to provide a proper guidelines in preparing the EIA reports and also to emphasize the objective and function of EIA to project proponents [31].

Mustafa [23] has added that any EIA report that been submitted to DOE that was not prepared by a qualified and registered consultant will be automatically rejected. In accordance to the process and procedures of EIA in Malaysia, only registered EIA consultants have the license to prepare the EIA report to be submitted to the Department of Environment [23], [31]. The EIA process in Malaysia consists of two types of EIA assessments which are the Preliminary Assessment and the Detailed Assessment [25], [28].

Before proceeding to the steps in the Malaysian EIA process, the proposed project has to be identified whether it is categorised as a 'prescribed activity' that is listed in the 'Handbook of Environmental Impact Assessment Guidelines' under the Environment Impact Assessment Order 1987 [32]. Pursuant to section 34A, Environmental Quality Act, 1974 (Amendment 1985), any entity that intends to carry out a proposed development that is classified as 'prescribed activity' is required to prepare an EIA report to be submitted to the Director General of Environmental Quality for approval [32]. Following the current process of EIA reports in Malaysia, DOE has revised and improved the local EIA by adding an additional process before proceeding to either Preliminary EIA or Detailed EIA which is known as the Preliminary Site Assessment (PAT).

The Preliminary Site Assessment or more known as 'Penilaian Awal Tapak' (PAT) is a mandatory step to be taken by the EIA consultants prior to the preparation of Preliminary EIA or the Term of Reference (TOR) for Detailed EIA [33]. The reason behind conducting a PAT is to ensure that the proposed site for the EIA project are being assessed and screened before the submission of the EIA report or TOR to the DOE. Moreover, this additional process aids the project proponent in selecting the best possible site for the proposed project. DOE [33] stated that the project proponent is required to submit the application of PAT to the relevant state DOE offices for comments by filling the PAT form that can be downloaded from the official website of the Department of Environment Malaysia.

Mustafa [23] has stated that two EIA reports shall be prepared in the midst of a proposed development. In an EIA process, the two EIA reports that are to be prepared and submitted to the DOE are the Preliminary EIA and the Detailed EIA [23]. The Preliminary EIA is one of the two EIA reports to be prepared for an EIA study. It is applied at the pre-feasibility stage of the proposed development [28], [32], [34]. In this Preliminary EIA, an assessment of potential impacts is made towards the activities in the proposed project. This stage not only analyse the potential environmental threats, it also determines the suitable project options and proper mitigation measures to reduce significant impact towards the environment

[25], [28], [31]-[32], [34]-[36]. Once the Preliminary EIA has been completed and submitted to the DOE, the review of the assessment will be executed internally by the Technical Committee within the Department of Environment [23], [31]. In any circumstances of an absent expertise within the department, assistance from the relevant government agencies will be pursued [31].

The Detailed EIA is undertaken by the projects that indicate significant residual environmental impacts to the environment [28], [31]-[32], [34]. The Detailed EIA shall be conducted during the feasibility stage and the completed assessment shall be submitted to the Director General to be approved before the implementation of the proposed development [34]. The Detailed EIA must be prepared in accordance with the Terms of Reference (TOR) and the TOR and the Detailed EIA are to be submitted prior to the DOE for approval and review [31]. In addition, the project initiator is required to submit 35 copies of TOR and 50 copies of the Detailed EIA to the Department of Environment [31].

Briffet *et al.* [25] have stated that the Detailed EIA is a thorough assessment that is made to determine the environmental cost and benefits of the proposed project towards the community. Furthermore, the Detailed EIA shall include a financial summary where it displays the environmental and development costs and profit of the proposed project [25]. The completed Detailed EIA that has been submitted to the Department of Environment is then reviewed by an ad hoc review panel which have been appointed by the Director General of the Department of Environment [34]-[35]. According to Emang [35], the Detailed EIA reports will be displayed for public view and comments at public locations such as public libraries and universities for approximately a month or more. This step allows participation from public to provide their insights on the proposed development and the comments will be included in the EIA report.

3.2 EIA Process in Western Australia

Australia is known to be one of the earliest countries to adapt Environmental Impact Assessment (EIA) into its local legislation since it has been introduced by NEPA in 1970 [36]. The development of process and procedures regarding EIA in Australia started in the year 1974 and has progressed cohesively since then [37]. The main legal instrument utilised to implement EIA in Western Australia is the Environmental Protection Act 1986 (EPAct) [38]. Morrison-Saunders [38] stated that there is a statutory body established under this Act, which is known as the Environment Protection Authority (EPA). The establishment of the Environment Protection Authority (EPA) is to protect the environment and also mitigate and reduce the pollution towards Western Australian environment [38].

The EPA is an independent statutory body consists of five panels that withhold the legal responsibilities for the EIA process in Western Australia consistent with the provisions under the EPAct [37]. The primary function of the EPA is to provide environmental advice on proposals of new developments to the Minister for the Environment [37]. Under Section 40 of the Act, the EPA is required to engage on an EIA submitted by a project proponent and to assess the proposal [39]. Moreover, the Act enables the EPA to not only assess a proposal, but also to determine which level of assessment will be applied to each proposal and to determine the eligibility for the proposal to be accepted by the Minister [39].

According to the Environmental Impact Assessment Administrative Procedures 2010, the first stage that every project proponent has to go through is the Referral stage. In this stage, a proposal must be properly referred, in writing to the EPA using appropriate forms provided by the EPA under Section 38 of the Act [39]. Strijk [39] elaborated that the EPA has the right to request any

additional information from project proponent and until the EPA has received a satisfactory response regarding the additional information. The EPA is also entitled to not decide whether to assess or not to assess the proposal within a statutory timeframe of 28 days under Section 38A under the Act [39].

Upon receiving the adequate information from project proponent, the EPA will publish the referral information excluding any confidential information on EPA's website for public feedbacks in a period of seven days [39]-[40]. The 7 day public comment period is executed to gauge the public interest level in the proposal and this will also influence the EPA's decision whether to assess or not to assess, and to determine an appropriate level of assessment for the proposal [39]-[40]. Once all information regarding the referred proposal have met the EPA's satisfaction, the decision to not assess or to assess including the level of assessment for the proposal will be announced publicly on EPA's website [39].

There are two levels of assessment for the EIA process in Western Australia which are the Assessment on Proponent Information (API) and Public Environmental Review (PER) [39]. The Assessment on Proponent Information (API) is the first level of EIA assessment that is fitting for a proposal with evident environmental acceptability or unacceptability at the referral stage [39]-[41]. For this assessment, a public review period is unnecessary because a proper and effective consultation has been carried out by the proponent with the stakeholders during the preparation of the proposal. Furthermore, any additional significant environmental issues or stakeholders are unlikely to be identified through the further consultation via a public review period [39], [41].

The Public Environmental Review (PER) process makes up the second tier of EIA assessment. This level only applies to proposal that has regional or State-wide significance, consists of various significant environmental issues, requires detailed assessment to determine the mitigation measures, or has the level of public concern of the environmental impacts that warrants a public review period [39], [42]. When the level of assessment for the proposal has been decided, there are three aspects that will be determined by the EPA which are the length of the public review period, the responsibility to prepare the Environmental Scoping Document (ESD) falls under the EPA or the proponent and the need for public review for ESD [40].

In this second tier of the EIA assessment, the Environmental Scoping Document (ESD) is required to be prepared by the EPA or the proponent as a part of the procedure in the PER process. Strijk [39] regarded that the ESD is prepared to develop a proposal-specific guidelines to be utilised by the project proponent on the preliminary critical environmental factors or issues that should be highlighted during the environmental review and the preparation of the PER documents. Furthermore, ESD is prepared to recognise the studies and investigation to be carried out for the proposal [39].

3.3 EIA Process in New Zealand

In response to the Bruntland Report which highlights the international concern on the need of sustainable development worldwide, the government of New Zealand has developed a new environmental act which is known as the Resource Management Act (RMA) [43]. The Resource Management Act (RMA) is the principle environmental legislation which came into force on 1 October 1991 [44]. The RMA has known to be the largest law reform performed by the government of New Zealand whereby the RMA has revoked approximately 78 statutes and regulations pertaining to the environment and also ameliorated several environmental legislations namely air, water, soil, biodiversity, noise, the coastal environment and land use [45]. Utilising the RMA, it has helped to eradicate the fragmented administration and

legislation, maximise the public participation and also to decentralise and heighten the consideration regarding the environment in decision-making process [45]-[46].

Moreover, Baba [44] and Dixon [43] included that the implementation of the RMA coincided along with implementation of the 1991 Crown Mineral Act where both acts have reinforced the level of protection of the natural resources in New Zealand. The RMA holds a primary purpose of promoting sustainable management of resources which focuses on the consideration of positive and negative impacts of all future development [44]. In addition, Baba [44] stated that the RMA emphasizes on the effects of the development rather than type of development to ensure equal evaluation are being made to all future development. There are two agencies established under the RMA to be responsible for environmental policies in New Zealand which are the Ministry for the Environment (MfE) and the Parliamentary Commissioner for the Environment (PCfE) [43].

EIA process in New Zealand is more likely known as Assessment of Environmental Effects (AEE) [45], [47]. The AEE has been incorporated into the statutory planning framework under the Resource Management Act (RMA) [47]. The RMA has augmented the utilisation of EIA as a substantial element into the decision-making process in New Zealand [45]. Wilson *et al.* [47] has also elaborated that due to no specific statute on the matters pertaining to EIA in New Zealand, the implementation of RMA plays a significant role in ensuring AEE is being carried out in all resource consents regardless of the size of the development. Nevertheless, the RMA does not administer the AEE process. The local governments are the entities that are responsible to administer the execution of the AEE process for all resource consent and the RMA merely provides the proper guidelines of the AEE process [45]-[46].

3.4 EIA Process in Canada

The integration of the climate change considerations in the EIA process has made Canada as one of the advanced developed countries in the EIA realm. The Canadian EIA has incorporated climate change impacts as a requirement in the local EIA process especially for major developments. The development of EIA process in Canada started in 1973, three years after the EIA requirement was introduced by NEPA in the US [48]-[49]. The Environmental Assessment and Review Process (EARP) were constituted as the first systematic response to Canadian EIA that was established in the late 1973 by the federal directives [48]-[49]. In the same year, the basic EIA procedure was introduced utilising two-phase approach which was the initial assessment phase and the public panel review phase [49].

Under the Government Organization Act 1979, the federal cabinet has granted authorization to the Minister of Environment to issue a set of guidelines for the implementation of the EARP in Canada [49]. Moreover, the Minister of Environment is held responsible to administer early applications of EARP in new developments to detect potential threats towards the environment thus control the environment quality in Canada [49]. After five years, the Environmental Assessment and Review Process (EARP) Guidelines Order has been successfully issued in 1984 by the Minister of Environment [48]-[49]. The EARP Guideline Order possesses explanations and clarifications regarding various roles and responsibilities of participating parties in implementing successful environmental assessment to suit a diverse range of individual projects up to policy-level review processes [48]-[50].

In 1990, a court order has been given to the Federal Government to draft a new act to substitute the Environmental Assessment and Review Process (EARP) Guidelines Order [49]. After three years, a new legislation which is known as the Canadian

Environmental Impact Assessment Act (CEAA) has superseded the EARP Guidelines Order [49], [51]. The Canadian Environmental Impact Assessment Act (CEAA) was officially promulgated in January 1995 by the Canadian Parliament [51]. The CEAA forms a national Act for the environmental impact assessment process which is carried out in both federal and provincial levels in Canada [51]-[53].

Furthermore, the CEAA plays a crucial role as one of the key federal laws that advocates sustainable development that conserve, preserve and intensifies the environment throughout the Canadian region for the benefit of the present and future generation [54]. The other primary function of CEAA is to protect the elements of the Canadian environment by reducing and mitigating significant adverse impacts from designated projects utilising the legal requirements under the Federal laws [55]. In addition, the CEAA encourages the collaboration and coordination of the federal and provincial governments in recognising the importance of treaty and aboriginal rights of the indigenous people in Canada [55].

The administration responsibility of the CEAA is placed upon the Canadian Environmental Assessment Agency or known as 'The Agency' [51]. Paci *et al.* [51] added that the Agency is responsible to manage and ensure the utilisation of procedures under the CEAA is followed accordingly by participating parties including the Government. Besides supporting the CEAA, the Agency leads the federal review process for major developments and manages the Aboriginal consultation activities required for the environmental assessment procedures of a development [56].

In Canada, the Canadian Environmental Impact Assessment Act 2012 (CEAA 2012) requires an environmental assessment for each designated project by the Minister of Environment and designated projects that are listed in the Regulations Designating Physical Activities [55], [57]. Under the CEAA 2012, the proponents of the designated projects are obliged to submit the project description to the Canadian Environmental Assessment Agency (The Agency) [57]. An exemption is made to designated projects that are regulated under the Canadian Nuclear Safety Commission (CNSC) or the National Energy Board (NEB) from the requirement to submit project descriptions to the Agency [57].

There are two types of environmental assessment provided under the CEAA 2012, namely, the environmental assessment by a responsible authority and the environmental assessment by a review panel [55]. The environmental assessment by a responsible authority refers to environmental assessment that is conducted by the Agency, the Canadian Nuclear Safety Commission (CNSC) or the National Energy Board (NEB) [55]. In contrast, the environmental assessment by a review panel involves a panel of individuals that are appointed by the Minister of Environment and is upheld by the Agency [55].

Both types of the environmental assessments conducted under the CEAA 2012 consist of different timelines depending on the stages of the environmental assessment processes. CEAA [55] has elaborated on the timelines of each of the types of environmental assessments held in Canada. For the first type of environmental assessment which is being conducted by the Agency, the Agency has been granted 45 calendar days after the complete submission of the project description by the project proponent. The period of 45 days given to the Agency to determine whether the designated project requires an environmental assessment and it is also inclusive of the 20-days public comment period. The CEAA 2012 provides 365 days for the period of completion on an environmental assessment conducted by the Agency. This period of completion kicks off when a notice of commencement of the environmental assessment is published on the Registry Internet site and ends when the decision is made by the Minister of the Environment on whether the designated project is likely to cause significant adverse impacts towards the Canadian environment.

On the contrary, the environmental assessment conducted by a review panel possesses the same stages up to the commencement of the environmental assessment stage. The next step under this environmental assessment is relatively different to be compared to the environmental assessment conducted by the Agency. In the stage of commencement of environmental assessment, the Minister is given 60 days to refer to a review panel to conduct the environmental assessment for the designated project. The completion period for the environmental assessment conducted by the review panel consist of a shorter period which is 24 months. The completion period starts when the proposed project is being referred to the review panel and ends when the decision has been made by the Minister of the Environment.

■4.0 COMPARATIVE STUDY ON EIA PROCESS

This comparative study comprises of key information on each EIA process that have been implemented in Malaysia, Western Australia, New Zealand and Canada. The main purpose of the comparative study is to highlight the similarities and differences of each EIA process in the four countries. Table 1 shows the comparative study on the EIA process that has been implemented in Malaysia, Western Australia, New Zealand and Canada.

Based on Table 1, few similarities have been identified regarding on the EIA systems applied in the four countries. Firstly, it is evident that the four countries have enacted respective Acts as their primary legal instrument to implement EIA in their respective countries. The existences of these Acts have dated back in the 1980s and the 1990s and have been modified and updated to the current trends of the country's development. Equipped with the legal instruments, these countries have also formed governing bodies to be responsible in administering the implementation of the respective Acts. Malaysia, Western Australia and Canada each has one governing body to administer the EIA in their respective countries while New Zealand has two bodies that work together to manage the implementation of EIA.

In both Western Australia and Canada, Minister of the Environment play the crucial role in approving the EIA submitted to the respective governing bodies of EIA. As for Malaysia, the Director General of the Environmental Quality from the Department of Environment holds the power to approve each EIA submitted to the entity. New Zealand has a slightly different entity that is responsible in approving the submitted EIA, where the Regional Council or the District Council has the power to determine the approval made on each EIA submitted.

Next, Malaysia, Western Australia and Canada share a similarity in terms of having two types or levels of EIA reports. Nevertheless, the two types or levels of EIA assessments seem to differ to one country to another. On the contrary, New Zealand is the only country that has only one types of EIA assessment between the four countries. In the process of preparing the EIA assessments, Western Australia is the only country that has an additional level before the EIA assessment level as stated in Table 1. The additional level is called as the Referral Stage which takes place before the EIA assessment is carried out. For Western Australia, the Referral Stage is crucial as it determines a proposal whether to be assessed or not to be assessed and also decides on the level of assessment to be taken that suits the proposal.

Throughout the EIA process in all four countries, each country has added public participation in their EIA system to ensure a more effective EIA to be implemented in the countries. Both New Zealand and Canada has incorporated public participation throughout their EIA process. As for Malaysia and Western Australia, only certain type or level of EIA assessment has incorporated public participation. In the Malaysian EIA, only the

Detailed Assessment has added public participation in the assessment process while Western Australia has incorporated public participation in the Referral stage and also the Public Environmental Review (PER).

Throughout the EIA process in all four countries, each country has added public participation in their EIA system to ensure a more effective EIA to be implemented in the countries. Both New Zealand and Canada has incorporated public participation

throughout their EIA process. As for Malaysia and Western Australia, only certain type or level of EIA assessment has incorporated public participation. In the Malaysian EIA, only the Detailed Assessment has added public participation in the assessment process while Western Australia has incorporated public participation in the Referral stage and also the Public Environmental Review (PER).

Table 1 Comparative study on EIA process adapted in Malaysia, West Australia, New Zealand and Canada

	Malaysian EIA	Western Australian EIA	New Zealand EIA	Canadian EIA
Main legal instrument for EIA	Environment Quality Act (EQA)	Environmental Protection Act (EPAAct)	Resource Management Act (RMA)	Canadian Environmental Impact Assessment Act (CEAA)
Governing Body for EIA	Department of Environment (DOE)	Environmental Protection Authority (EPA)	Ministry for the Environment (MfE) and Parliamentary Commissioner for the Environment (Pcfe)	Canadian Environmental Impact Assessment Agency (The Agency)
Approval Body/ Authority for EIA	Director General of Environmental Quality	Minister for the Environment	Regional Council or District Council	Regional Council or District Council
Types/Level of EIA	Two types of EIA reports: i. Preliminary EIA (PEIA) ii. Detailed EIA (DEIA)	Two levels of EIA reports: i. Assessment on Proponent Information (API) ii. Public Environmental Review (PER)	One type of EIA assessment: i. Assessment Environmental Effects (AEE)	Two types of EIA reports: i. Environmental Assessment Process Managed by the Agency ii. Environmental Assessment Process Managed by a Review Panel
Levels before EIA assessment	<u>Preliminary Site Assessment (PAT)</u> : The PAT is a mandatory step to assess and screen the proposed project site before proceeding to PEIA or DEIA	<u>Referral Stage</u> : The EPA evaluates the referred proposal and decides whether to not assess or to assess and the level of assessment	None	None
Public Participation	Detailed EIA	i. Referral Stage ii. Public Environmental Review (PER)	Assessment Environmental Effects (AEE)	i. Environmental Assessment Process Managed by the Agency ii. Environmental Assessment Process Managed by a Review Panel
Report published for public view and public comments	Detailed EIA for approximately 1 month	i. Referral Stage for 7 days ii. Public Environmental Review (PER) for 2 weeks	20 working days and may involve public hearings if the project has major impacts towards the environment	EIA report is published for public comments in every stage in both types of assessments starting from the 'Determination of Environmental Assessment' stage until the 'Environmental Assessment Report' stage or the 'Review by Panel' stage
Timeline	Does not have a specific timeframe for both types of EIAs	Does not have a specific timeframe for both levels of environmental assessments	Approximately 30 working days for projects with minor effects or approximately 70 working days for projects with major effects excluding further information and court appeals	Approximately 55 days before the Environmental Assessment commencement and approximately 365 days for assessments conducted by the Agency or 24 months for assessments conducted by the Review Panel

In order to allow public participation, the EIA report will be published for public view and comments to be added into the evaluation of the EIA report. The Malaysian EIA report is published for approximately one month for the Detailed Assessment stage and as for the New Zealand's EIA report, it will be published for 20 working days and it may involve public hearings. As for the Western Australian EIA, the EIA report published for public view in the Referral Stage will consist of 7 days and 20 weeks for the Public Environmental Review (PER). Conversely, in Canada, the EIA report is published for public view and comments in every stage in both types of EIA assessments. The

EIA report is published to public from the 'Determination of Environmental Assessment' stage until the 'Environmental Assessment Report' stage or the 'Review by Panel' stage.

The Malaysian EIA and Western Australian EIA do not provide specific timeframes for either types or levels of EIA assessments implemented in these countries. In contrast, New Zealand's EIA provided an approximate of 30 working days for projects with minor impacts and an approximate of 70 working days for projects with major impacts excluding further information or court appeals in the process of EIA assessments. Lastly, for the Canadian EIA, it is provided that the approximate timeframe taken

for stages before the Environmental Assessment commencement takes up to 55 days. For assessment that is conducted by the Agency requires approximately 365 days from the Environmental Assessment commencement until the Environmental Assessment decision stage. Conversely, the assessment that is conducted by the Review Panel requires approximately 24 months from the Environmental Assessment commencement until the Environmental Assessment decision stage.

5.0 CONCLUSION

Environmental Impact Assessment is utilised as a main instrument to promote sustainable development and environmental protection worldwide. Multiple countries have applied various EIA processes that are tailored in accordance with the country's development. This paper discussed on the comparative study that has been carried out on the EIA process of four chosen countries which are Malaysia, Western Australia, New Zealand and Canada. From the comparative study, differences and similarities of each EIA process from the four countries have been analysed. Among the four EIA processes, the Canadian EIA process has a more prominent EIA process due to its most elaborate process. The Canadian EIA process incorporates the most frequent public involvement where it takes place at every stage of the process. Moreover, the Canadian EIA process takes up to 365 days to be assessed which is the longest timeline among the other EIA processes. Conclusively, it is evident that each country have their own unique EIA system that they applied to ensure a more efficient and effective implementation of EIA.

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