PUBLIC PARTICIPATION ASSESSMENT FOR ENVIRONMENTAL IMPACT ASSESSMENT IN MALAYSIA, CANADA AND NEW ZEALAND

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ABSTRACT

In 1975, the Environmental Impact Assessment (EIA) was promulgated in Malaysia after the enactment of Environmental Quality Act (EQA) in 1974. Although the EIA is integrated for nearly five decades, the effective public participation application for EIA remained scant in the Malaysian environment. This paper provides a comparative study on public participation application for EIA in Malaysia, Canada and New Zealand. This study is administered by analysing the current EIA process and EIA legislation pertaining to the public participation for EIA in the three countries via literature review. This paper examines the similarities and differences between the three countries on their application of public participation for EIA. It is paramount to examine the current application of public participation administered for EIA in the Malaysian environment with other developed countries to induce effective public participation for EIA in Malaysia.

Keywords: Public participation, Environmental Impact Assessment (EIA), Comparative study

INTRODUCTION

A leap in the environmental movement in America was ignited by a book titled 'Silent Spring' by an author in 1962 named Rachel Carson (Grisworld, 2012). Silent spring has raised social concerns on protecting the environment due to pollution (Ogola, 2007). Due to this predicament, a federal statute known as the National Environmental Policy (NEPA) was inaugurated in 1969 by the US government (Ogola, 2007). In consequence to this Act, rising worldwide attention in sustainable development and environmental protection were received when the Environment Impact Assessment (EIA) were initiated especially in developed countries (Bhatia & Wernham, 2008; Bhatt & Khanal, 2010; Zhenxing & Hiufeng, 2010). Thus, EIA utilisation as worldwide policy transformation were adopted in over 120 countries for the development's decision-making (Cashmore, 2004; Glasson et al., 2005; Makmor and Ismail, 2014; Zhenxing and Hiufeng, 2010). The Environment Impact Assessment (EIA) is also known as an intercontinental pre-decision tool that integrates multidisciplinary participators that interact throughout the entire process in enhancing positive impacts and ensuring protection of the environment against the proposed development (Bastmeijer & Koivurova, 2008; Glasson et al., 2005; Peche & Rodríguez, 2009; Phillips, 2011). EIA is designed as a management tool which identifies, evaluates and mitigates potential detrimental effects of a newly proposed development (Chesoh, 2011; Lenzen et al., 2003; Saldanha et al., 2011). Conclusively, the EIA is interpreted as a sophisticated management tool that identifies, evaluates and mitigates effects from prior to the development in the proposal stage, ensuring the development is sustainable and environmental friendly. The increase of economic growth in Malaysia has pressured the Government to implement a new order to establish balance the vast economic growth to the environmental protection in Malaysia (Mustafa, 2011). Hence, the Environmental Quality Act (EQA) was enacted in 1974 to avoid, minimise and regulate the level of pollution thus sustain the Malaysian environment (Makmor and Ismail, 2016a; Memon, 2000; Mustafa, 2011; Rahman et al., 2001). The Environment Impact Assessment was inaugurated in Malaysia in 1975 after the enactment of the Environment Quality Act (EQA) in 1974 (Makmor and Ismail, 2016a; Memon, 2000). EIA has been implemented in Malaysia for more than four

decades and has not achieved the effective application of EIA (Makmor and Ismail, 2016; Wood, 2003). Robust application of public participation has become one of the prime aspects of effective application in EIA as seen in few developed countries (Li, 2008). This paper presents the vital information in regards of public participation for EIA as practiced in Malaysia and two industrialised countries which are Canada and New Zealand. Canada and New Zealand were selected as they are commonwealth countries that share the similar administrative structure of government as Malaysia. Both countries also apply common law as their legal systems which is identical to Malaysia. Moreover, the United Nations Environment Program (UNEP) has acknowledged Canada and New Zealand for their EIA process. Canada and New Zealand have also been recognised by UNEP for the few countries that have inserted indigenous inclusion in their EIA system. Comparative assessment of public participation for EIA adapted in Malaysia, Canada and New Zealand is also included as an integral part of this paper. This paper is a part of a research which focuses on developing a framework on public participation practice for Environmental Impact Assessment (EIA) in Malaysia.

This research was driven due to the findings of ineffective implementation of public participation for EIA in Malaysia. One of the issues is the inadequacies of the legislation and requirements on the public participation for EIA in Malaysia. There are no proper guidelines on public engagement administered for EIA in the EIA guidelines published by the Department of Environment Malaysia (DOE). Due to this matter, it has led multiple environmental issues to exist in this nation. According to Makmor and Ismail (2014), the public participation carried out under the First Schedule for EIA in Malaysia is often shallow and insignificant. Briffet et al. (2004), Harun & Mazlan (2008), Makmor and Ismail (2016a), Marzuki (2009) and Li et al. (2012) have concurred with evidences that shown most of the EIA reports of the First Schedule activities that were submitted and approved by the DOE without public participation. As for the Second Schedule activities, it is mandatory to administer the public participation under the EIA guidelines. Li et al. (2012), Maidin (2011) and Omar & Leh (2009) has collectively agreed that the public participation held for the Second Schedule activities were ineffective due to the rise of environmental issues in Malaysia. Additionally, the public participation administered for EIA are frequently applied late where the decisions have already been decided (Makmor and Ismail, 2016b; Alam, 2014). From a study by Makmor and Ismail (2014), the author concluded that ineffective public participation is also contributed by the attitude of each stakeholder in the process of EIA namely the consultants, the project proponents and also the public. These issues have collectively resulted to an ineffective application of public participation for EIA administered in Malaysia. Ergo, this research analyses the requirements and legislation, barriers and also recommendations on public participation practice for EIA in Malaysia. Thus, a framework is developed on public participation practice for EIA in Malaysia.

PUBLIC PARTICIPATION FOR ENVIRONMENT IMPACT ASSESSMENT (EIA)

Omar & Leh (2009) stated that the 'public' for public participation is not restrained to only individuals but the public also includes any associations, organizations or bodies that are interested in the proposed development. Dian & Abdullah (2013) and Idilfitri et al. (2014) both support the statement as anyone or any stakeholders that has an interest or will likely to be affected, either positively or negatively by the proposed development can be considered as public in public participation. Conclusively, the term 'public' in public participation can be defined as an individual or any kind of group or organisation that are likely to be affected or simply has an interest in the proposed development. Next, the term 'public participation' can be defined as a continuous process where it involves a two-way communication and interaction between the community and the

authorities (Creighton, 2005; Dian and Abdullah, 2013; Ismail and Said, 2014). Omar and Leh (2009) and Omar (2009) elaborated further on the process of public participation which encourages public to contribute feedback and input by conducting a dialogue with the public. Thus, integrating the public's ideas, viewpoints and preference into the decision-making creating a more responsive and democratic governance (Boyte and Kari, 1996; Dian and Abdullah, 2013; Omar, 2009; Omar and Leh, 2009). In conclusion, the interpretation of public participation integrates the concept of empowerment, human rights and democracy which involves a two-way communication between the public and the authorities that generate constructive decision thus enhance the decision-making process that benefits all parties. Public participation in EIA is known to be interdisciplinary which combines law, politics, conflict resolution, planning and decision-making and upholds many practical benefits such as to advocate democracy and a high degree of transparency in the proposed project (Dian and Abdullah, 2013; Sinclair et al., 2008).

PUBLIC PARTICIPATION FOR ENVIRONMENT IMPACT ASSESSMENT (EIA) IN MALAYSIA

In the context of EIA in Malaysia, public participation has been highlighted in three legal documents which are the Environmental Quality Act (EQA) 1974 Section 34A, Environmental Quality (Prescribed Activities) Environmental Impact Assessment Order 2015 and Environmental Impact Assessment Guidelines 2016. In the EIA Act 1974, the participation practice was not emphasised by the act but under section 34A (2), the process of the EIA report preparation was described to be according to the guidelines prescribed by the Director General (Malaysia, 2006). In other words, any indication of application of public participation that is written in the EIA Guideline 2016, it is legal binding to be applied to the EIA report preparation.

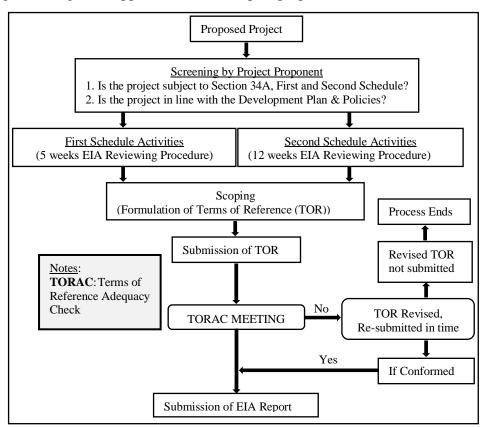


Fig. 1 Pre-Submission of EIA Report Stage

Source: DOE (2016)

Furthermore, the public participation application for the EIA report preparation was emphasised under the second legal document which is the EIA Order 2015. Below is the citation of the EIA Order 2015 on subparagraph (2), (3) and (5) under item number 3 (DOE, 2015). It is clear under subparagraph (2) and (3) that the application of public participation is a requirement for prescribed activities under the Second Schedule while it is not compulsory to be carried out for prescribed activities under the First Schedule. However, subparagraph (2) stated that the public participation is to be deemed compulsory for the First Schedule prescribed activities if a written instructions were given by the Director General of Environment. As for subparagraph (5), it explains further on the public display of the EIA report to retrieve public comments on the report. The public participation element is further emphasised in the guiding document published by the DOE which is the EIA Guideline 2016. Firstly, it is apparent that the public participation element is integrated in the review process of the submitted EIA report for prescribed activities under the Second Schedule (DOE, 2016). In the EIA process administered in Malaysia, opportunities for public to participate are visible in two stages which are the pre-submission stage and the submission stage for the Second Schedule activities. The Term of Reference (TOR) is the pre-submission stage where after the submission of the TOR, a Term of Reference Adequacy Check (TORAC) meeting is held to evaluate the TOR submitted. In this TORAC meeting, a limited opportunity is given for a selected individual called the Appointed Individuals (AIs) to represent the public. Fig. 1 shows the flow of the pre-submission of an EIA report stage held in Malaysia. As for the Submission stage of the EIA report, the opportunity for public to participate is clearly indicated for the Second Schedule activities. The public participation opportunity exists where the EIA report is required to be displayed to the public and public are able to comment on the EIA reports. The comments are collected before the EIA technical review committee (EIATRC) meeting. Fig. 2 below illustrate the Submission stage of the EIA report held in Malaysia.

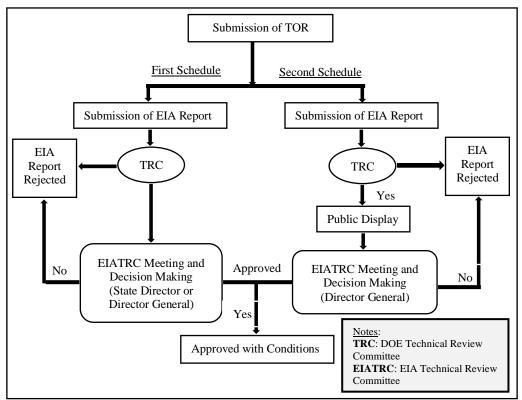


Fig. 2 Submission of EIA Report Stage

Source: DOE (2016)

PUBLIC PARTICIPATION FOR ENVIRONMENT IMPACT ASSESSMENT (EIA) IN CANADA

In accordance to Fig. 3, the public participation in Canada is administered in almost every stages of the environmental assessment. Provisions for the public participation for environmental assessment in Canada is provided in sections under the Canadian Environmental Assessment Act 2012. In the Canadian Environmental Assessment Act 2012, the provisions for the two types of environmental assessments were separated in different headings under the Act. The first type which is the environmental assessment by a responsible authority is provided under Section 21 until section 37 of the Act. Meanwhile, the environmental assessment by a review panel is given under section 38 until section 65.

Firstly, multiple provisions in the Act highlight the public participation as an integral element in an environmental assessment administered in Canada. The provisions are section 9 subparagraph (1)(c), section 10 subparagraph (a)(iii) and section 19 subparagraph (c). Under Section 9 (c) of the Act, it describes the public notice that invites the public to comment on the description of the designated project and also on a time frame of 20 days to collect the comments given by the public (Canada, 2017).

Additionally, a provision for the screening decisions under Section 10 of the Act also mentioned the inclusion of public participation. Section 10 (a)(iii) stated that the screening process conducted must also include the consideration of the comments received by the public notice discussed earlier (Canada, 2017). The emphasis on public participation is also repeatedly stated in Section 19 (1)(c) where it states that environmental assessment of a designated project has to include the comments from the public or any interested parties (Canada, 2017).

Next, for the environmental assessment by a responsible authority, the provisions on public participation were given under section 24, section 28, section 25 subparagraph (1)(b) and section 25 subparagraph (2). In section 24 of the Canadian Environmental Assessment Act 2012, the Act clearly states that the responsible authority has to provide an opportunity for public to participate in the environmental assessment conducted in Canada (Canada, 2017). Furthermore, section 28 under the Act also included a provision for public participation to be carried out in the administration of the environmental assessment conducted by the National Energy Board under the section 54 of the National Energy Board Act (Canada, 2017).

In an environmental assessment conducted by the Agency, a draft report is required and public participation in the draft report is also spelled out in the Act under Section 25 (1)(b) (Canada, 2017). The provision states that a notice of invitation for the public to comment on the draft report are to be posted in the Internet site. The Act also emphasises on the consideration of public comments in the final report to be presented to the Minister of the Environment under Section 25 (2). Lastly, the provision for public participation for environmental assessment administered by a review panel were stated in Section 46 of the Act where it states that the Minister has to facilitate access to public to comment on the report (Canada, 2017).

Conclusively, the public participation for EIA in Canada is clearly being embedded into the procedures of EIA and also supported in the legislation pertaining to the environmental assessment carried out in Canada. The significance of the public participation is seen as the public participation is required in almost every stages in the process which are the project description stage, the EA commencement stage, the EIS analysis stage in both type of assessments and the EA report stage in both type of assessments.

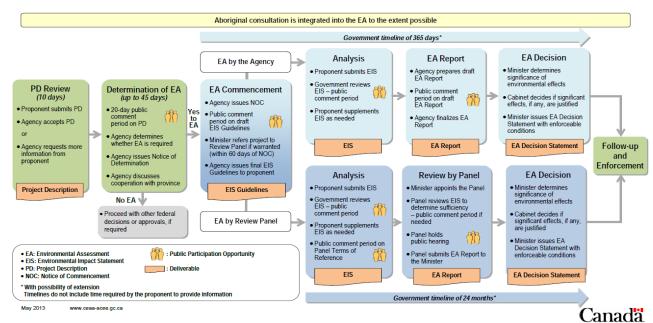


Fig. 3 Submission of EIA Report Stage in Canada Source: CEAA (2013)

PUBLIC PARTICIPATION FOR ENVIRONMENT IMPACT ASSESSMENT (EIA) IN NEW ZEALAND

In the EIA process conducted in New Zealand, there are two parts of the process whereby it consists of the Assessment Environmental Effects (AEE) and a Resource Consent which are shown by Fig. 4 and Fig. 5 respectively. In Fig. 4, the opportunities to conduct public participation are visible from the Step 1 until Step 5. As for the Resource Consent process indicated by Fig. 5, the opportunity to conduct a public participation is not indicated in the flow of process. Nonetheless, the Act which refers to the Resource Management Act 1991 (RMA) as the legal document in New Zealand has detailed the public participation requirements in both process.

Section 2AB under subsection 1 and 2 in the RMA has provided a general meaning of public notice where the RMA requires the public notice to be publish in a free access website and also inclusive of all the required information (Environment, 2018). Additionally, the provision also included that the public notice must include a short summary that is clear and concise and to be published in website and in one or more newspaper in the affected area. Next, section 43A under subsection (7)(a) entails the public participation element in the application process of a Resource Consent (Environment, 2018).

This section highlights the requirement for a public notice in the application of a Resource Consent. Following the provision on public notice for an application for the Resource Consent, section 95 entails the time limit given to conduct the public notification under subsection (1) and subsection (2) (Environment, 2018). Subsection (2) of the provision states that the time given for fast track application is 10 days and for other application is 20 days after the day of the application. Finally, the RMA also includes a provision that illustrates the explanation for public notification of consent application. According to section 95A, under subsection (1) until subsection (9), this provision entails a step-by-step guide for consent authority to determine the circumstance that requires a consent application.

In a conclusion, the public participation for the EIA process for New Zealand is significant as both process of AEE and Resource Consent application requires elements of public participation.

This is apparent in the guidelines provided by the Minister for the Environment, New Zealand and also in the legislation which refers to the RMA 1991. According to the Minister for the Environment (2006) in the Guide to Resource Management Act, the RMA play an important role in ensuring sustainable management of the physical and natural resources in New Zealand to ensure a clean, healthy and unique environment which sustains the nature and people's need and aspiration.

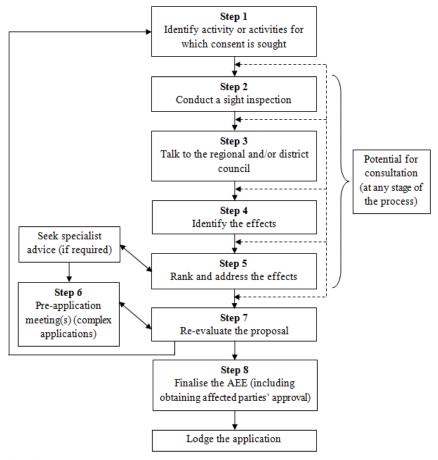


Fig. 4 Steps to Prepare the Assessment Environmental Effects (AEE) Source: MfE (2006)

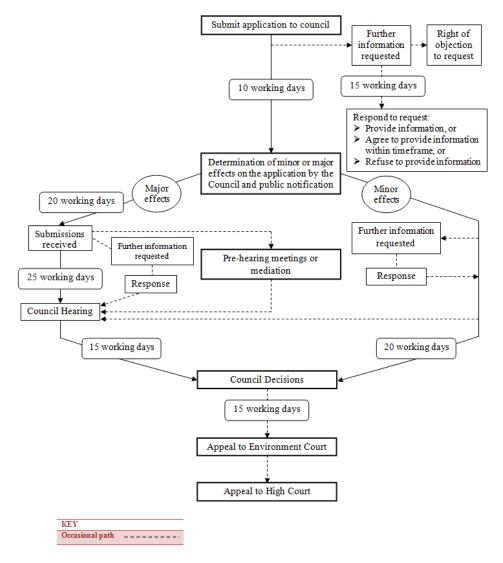


Fig. 5 Stages and Time Frames for the Resource Consent Process in New Zealand Source: MfE (2006), Scott & Ngoran (2003), Baba (2003)

METHODOLOGY

A qualitative approach was utilised in this paper where an extensive review was made on the existing literature on the public participation for EIA practiced in Malaysia, Canada and New Zealand. The literature review was carried out in the first stage of data collection for this research. The literature review is carried out to understand the background of the research which comprised of legislations and regulations pertaining to public participation for EIA in the three countries. This paper also review the EIA process administered in the three countries which analyses the element of public participation within the EIA process. This literature review provides a factual evidence to support the research as a whole. This research utilised a mixture of quantitative and qualitative methods for data collection which includes the qualitative method in the literature review. This review of literature served as a background study to the research to further improve the practice of public participation for EIA in Malaysia.

COMPARATIVE ASSESSMENT ON PUBLIC PARTICIPATION FOR ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

This comparative assessment holds vital data on the implemented public participation for EIA in Malaysia, Canada and New Zealand. The key motivation of this comparative assessment is to emphasize the similitudes and contrasts of public participation for EIA in the three countries. The fundamental information in this comparative assessment are acquired from the review of literature administered previously. Table 1 show the comparative assessment on the public participation for EIA administered in Malaysia, Canada and New Zealand.

Table 1 shows the similitudes and contrasts of public participation for EIA in the three countries namely Malaysia, Canada and New Zealand. First and foremost, each of the three countries have ratified individual Acts as their main legal instrument to impose EIA and public participation for EIA in their individual countries. The main legal instruments are the Environmental Quality Act (EQA) for Malaysia, the Canadian Environmental Assessment Act (CEAA) for Canada and the Resource Management Act (RMA) for New Zealand. These Acts existed since 1980s and 1990s and have been altered to adapt to the current trends align with the country's development. Moreover, these three countries have formed administrative bodies to govern and held responsible for managing the execution of the individual EIA Acts. Each of the three countries has one administrative body that administers EIA in their countries. The governing bodies are the Department of Environment (DOE) for Malaysia, the Canadian Environmental Assessment Agency or known as 'The Agency' for Canada and the Ministry for the Environment (MfE) for New Zealand. In both Malaysia and Canada, one approval body is appointed to manage the approvals of the EIA submitted which are the Director General of the Environment Quality for Malaysia and the Minister of Environment for Canada. Meanwhile, New Zealand as three approval bodies which are the Regional Councils, District Councils or Unitary Councils. These three approval bodies have their own jurisdiction based on the type of proposal submitted.

Another similarity identified between the three countries is all of these countries has two categories of EIA reports in their EIA systems. Nonetheless, the two types of EIA report seem to differ from one country to another. Firstly, the EIA reports for Malaysia are based on the category of prescribed activities where the First Schedule or the Second Schedule entails. As for Canada, the type of EAs are differentiated by the entity that administer the EA. Finally, for New Zealand, the two types of EIA report are totally different but both documents are required to be submitted as one application.

Next, Malaysia and Canada have an additional level to be conducted prior to the EIA assessment level. As for Malaysia, three activities are required which are screening, scoping and Terms of Reference (TOR) that are considered as a pre-assessment level before the EIA assessment level (Refer to Fig. 1). Similarly, Canada has a pre-EA level which is called a project description where a description of the project is submitted and published for public comments, and also to be approved before proceeding to the EA level (Refer to Fig. 3). As a contrast, New Zealand does not have a level prior the EIA level as per the two countries.

Along the entire EIA process in the three countries, each of the country has embedded opportunities for public to participate along the EIA procedure. Both Canada and New Zealand have provided opportunities for public participation in most stages throughout the EIA process adapted in their respective countries (Refer to Fig. 3, Fig. 4 and Fig. 5). Meanwhile, Malaysia has included public participation opportunities only in submission stage for the Second Schedule activities (Refer to Fig. 2). In the pre-submission stage which is the TOR, a limited opportunity for public participation occur when Appointed Individuals (AIs) are selected to be in the TOR process to represent the public (Refer to Fig. 1).

In conjunction to the opportunity given for the public participation, a timeline of the participation is provided in accordance to the respective countries. As for Malaysia, a timeline of one (1) month is given for the public to provide comments in regards to the proposed project for Second Schedule activities. As for the TOR procedure, no timeframe is allocated for the AIs. Canada provided a 20-day period in the Project Description stage for the public to provide their comments (Refer to Fig. 3). As for the other stages of public participation throughout the EIA procedure, no timeline is provided for the public participation. Similarly, 20 working days is given for public to provide their comments on the Resource Consent application in New Zealand (Refer to Fig. 5). No timeline is provided for public to participate in the AEE procedure in New Zealand.

As for the timeline for the EIA process, each country has provided different timelines in accordance to their EIA process. Malaysia has provided a timeframe for the reviewing procedure after the submission of EIA to the DOE which are five (5) weeks for First Schedule activities and 12 weeks for Second Schedule activities. No timeline has been allocated for the whole preparation process of the EIA report before submission for Malaysia. Similarly, New Zealand did not provide the time allocated for the AEE and Resource Consent preparations. Two timelines are allocated for the Resource Consent process after the application is submitted until the council's decision for an estimated of 30 working days for minor impacts projects or 70 working days for major impacts projects (Refer to Fig. 5). On the other hand, the EIA process in Canada has allocated the timeline for the EIA from the commencement of the EA until the decision for the EA which is 365 days for EA by the Agency and 24 months for EA by the Review Panel (Refer to Fig. 3).

Lastly, the provisions on public participation for EIA were provided in their main legislation for both Canada and New Zealand which are the Canadian Environmental Assessment Act (CEAA) and the Resource Management Act (RMA) respectively. Conversely, Malaysia did not provide any clauses on public participation for EIA in the Environmental Quality Act (EQA) as the main legislation. Nevertheless, the clauses for public participation are given in the EIA Order 2015 and EIA Guidelines 2016. Conclusively, the comparative assessment has shown that the public participation for EIA in Canada and New Zealand are evidently more extensive contrast to the public participation for EIA conducted in Malaysia.

Table 1 Comparison on Public Participation for EIA Adapted in Malaysia, Canada and New Zealand

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Categories	Malaysian EIA	Canadian EIA	New Zealand EIA	Analysis		
Main legal instrument for public participation for EIA	Environmental Quality Act (EQA)	Canadian Environmental Assessment Act (CEAA)	Resource Management Act (RMA)	Each country has their own EIA Act		
Administrative Body for EIA	Department of Environment (DOE)	Canadian Environmental Assessment Agency (The Agency)	Ministry for the Environment (MfE)	Each country has one administrative body for EIA		
Approval Body for EIA	Director General of the Environment Quality	Minister of the Environment	Regional Councils, District Councils or Unitary Councils	Each country has one approval body for EIA except for New Zealand, where there are three different approval body, depending on the type of proposal submitted.		

Types of EIA	Two categories of EIA reports: i. First Schedule ii. Second Schedule	Two categories of EIA reports: i. Environmental Assessment by a responsible authority ii. Environmental Assessment by a review panel	Two categories of EIA reports: i. Assessment of Environmental Effects (AEE) ii. Resource Consent	Each country has two categories of EIA reports
Levels before EIA assessment	Screening, Scoping and Terms of Reference (TOR)	Project Description	None	Malaysia and Canada both has additional level prior to the EIA assessment stage.
Categories	Malaysian EIA	Canadian EIA	New Zealand EIA	Observation
Public Participation Opportunity	Pre-submission stage: Terms of Reference (TOR) Submission stage for Second Schedule Activities	 Determination of Project Description EIS Guidelines stage EIS stage EA report stage 	Assessment of Environmental Effects (AEE) Resource Consent	All three countries have provided opportunity for public participation in the EIA process.
Timeline for the Public Participation and EIA process	 None for TOR One (1) month for public participation for Second Schedule Activities 5 weeks for First Schedule 12 weeks for Second schedule 	 20 days for PD No timeline given for other phase of public participation 55 days for PD 365 days for EA by the Agency or 24 months for EA by the Review Panel 	 No timeline given for the AEE 20 working days for Resource Consent application 30 working days for minor impacts projects 70 working days for major impacts projects 	All three countries have set a timeline for the public participation and EIA process respectively.
Public Participation Opportunity	Pre-submission stage: Terms of Reference (TOR) Submission stage for Second Schedule Activities	 Determination of Project Description EIS Guidelines stage EIS stage EA report stage 	3. Assessment of Environmental Effects (AEE) 4. Resource Consent	All three countries have provided opportunity for public participation in the EIA process.
Provisions for Public Participation in Legislation or Requirement	 EIA Guidelines 2016 EIA Order 2015 	Canadian Environmental Assessment Act (CEAA)	Resource Management Act (RMA)	Canada and New Zealand have set out provisions in their Acts on public participation. Malaysia has provisions in EIA Order 2015 and EIA Guidelines which are supplementary documents to the main Act.

CONCLUSIONS

The Environmental Impact Assessment (EIA) is recognised as the cornerstone in promoting environmental protection worldwide. Public participation remained as an integral element embedded in an EIA procedure applied in various countries. This paper discussed on the comparative study that was administered on the public participation for EIA in three countries

which were Malaysia, Canada and New Zealand. The similitudes and contrasts of the public participation for EIA process in the three countries were analysed. Among the various similarities and differences on the public participation for EIA in the three countries, it can be concluded that Canada and New Zealand have a more extensive system in the application of public participation for EIA compared to Malaysia. This is due to the fact that both Canada and New Zealand has integrated detailed provisions in their main legislation on EIA and the opportunities for public to participate in their EIA process are more compared to the EIA process in Malaysia. Thus, the public participation for EIA applied in Canada and New Zealand should be precedents to further enhance the implementation of public participation for EIA in Malaysia.

REFERENCES

- Alam, S. 2014. "Public Participation in the Enforcement of Environmental Laws: Issues and challenges in the light of the legal and regulatory framework with special reference to EIAs in Malaysia." Bangladesh Research Foundation Journal, 3: 87-101.
- Baba, A. 2003. Geothermal Environmental Impact Assessment with Special Reference to the Tuzla, Geothermal Area, Canakkale, Turkey. (pp. 75-108). Iceland: The United Nations University.
- Bastmeijer, K. and Koivurova, T. (Eds.) 2008. Theory and Practice of Transboundary Environmental Impact Assessment. Netherlands: Martinus Nijhoff Publishers.
- Bhatia, R. and Wernham, A. 2008. "Integrating Human Health into Environmental Impact Assessment: An Unrealized Opportunity for Environmental Health and Justice". Environmental Health Perspectives, 116: 991-1000.
- Bhatt, R. P. and Khanal, S. N. 2010. "Environment Impact Assessment System and Process: A study on policy and legal instrument in Nepal". Journal of Environment Science and Technology, 4: 586-594.
- Boyte, H. C. and Kari, N. N. 1996. Building America: The Democratic Promise of Public Work. Philadelphia, USA: Temple University Press.
- Briffet, C., Obbard, J., and Mackee, J. 2004. "Environment Assessment in Malaysia: a means to an end or a new beginning?" Impact Assessment and Project Appraisal, 22: 221-233.
- Broderick, M. A., and Durning, B. 2006. "Environmental impact assessment and environmental management plans: an example of an intergrated process from the UK." Geo-Environment and Landscape Evolution, 89: 15-24.
- Canada 2017. Canadian Environmental Assessment Act 2012. Minister of Justice. Retrieved from https://laws.justice.gc.ca/eng/acts/C-15.21.
- Cashmore, M. 2004. "The role of science in Environment Impact Assessment: process and procedure versus purpose in the development of theory." Environment Impact Assessment

- Review, 24:403-426.
- CEAA. 2013, May. Environmental Assessment Process. Retrieved from https://www.canada.ca/content/dam/ceaa-acee/documents/environmental-assessments/basics-environmental-assessment/environmental-assessment-process.pdf.
- Chesoh, S. 2011. "Environmental Impact Assessment of Power Development Project: Lessons from Thailand Experiences". Asian Social Science, 7:119-123.
- Creighton, J. L. 2005. The Public Participation Handbook: Making Better Decisions through Citizen Involvement. San Francisco, USA: John Wiley & Sons.
- Dian, A. M., and Abdullah, N. C. 2013. "Public Participation in Heritage Sites Conservation in Malaysia: Issues and challenges". Procedia Social and Behavioral Sciences, 101:248 255.
- DOE. 2015 Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015. Malaysia.
- DOE. 2016. Environmental Impact Assessment (EIA) Guidelines Malaysia.
- Environment 2018. Resource Management Act 1991 [online] http://www.legislation.govt.nz/act/public/1991/0069/latest/DLM230265.html. (Accessed 11 July 2019).
- Glasson, J., Therivel, R., and Chadwi, A. (Eds.). 2005. Introduction to Environmental Impact Assessment (3rd ed.). Oxfordshire, UK: Routledge.
- Grisworld, E. 2012, September 21. How 'Silent Spring' Ignited the Environmental Movement. The New York Times.
- Harun, H., and Mazlan, M. 2008. "Some Measure to Strengthen the EIA Process- A Consultant's Perspective". Paper presented at the Forum on Environmental Impact Assessment- 20 Years On, What Next?
- Idilfitri, S., Rodzi, N. I. M., Mohamad, N. H. N., and Sulaiman, S. 2014, 24-26 February 2014. "Public Perception of the Cultural Perspective towards Sustainable Development". Paper presented at the Asia Pacific International Conference on Environment-Behaviour Studies, Berlin, Germany.
- Ismail, W. A. W., & Said, I. 2014, 24-26 February 2014. "Integrating the Community in Urban Design and Planning of Public Spaces: A review in Malaysian cities". Paper presented at the Asia Pacific International Conference on Environment-Behaviour Studies, Berlin, Germany.
- Lenzen, M., Murray, S. A., Korte, B., and Dey, C. J. 2003. "Environmental Impact Assessment including Indirect Effects- A Case Study using Input-Output Analysis". Environment Impact Assessment Review, 23:263-282.

- Li, J. 2008. "Environmental Impact Assessment in Developing Countries: An Opportunity for Greater Environmental Security?" (pp. 1-26): Foundation for Environmental Security and Sustainability.
- Li, T. H. Y., Ng, S. T., and Skitmore, M. 2012. "Public participation in infrastructure and construction projects in China: From an EIA-based to a whole-cycle process". Habitat International, 36: 47-56.
- Maidin, A. J. 2011. "Access to Public Participation in the Land Planning and Environmental Decision Making Process in Malaysia". International Journal of Humanities and Social Sciences, 1: 148-164.
- Makmor, M., and Ismail, Z. (2014). "A Comparative Study on EIA process in Malaysia, West Australia, New Zealand and Canada". Jurnal Teknologi, 70: 15-22.
- Makmor, M., and Ismail, Z. (2016a). "Improving Environmental Impact Assessment (EIA) Process in Malaysia". Jurnal Teknologi, 78: 93-107.
- Makmor, M., and Ismail, Z. (2016b). "An Analysis on the Application of EIA Process in Malaysia". Jurnal Teknologi, 78: 191-200.
- Malaysia, G. o. 2006. Environmental Impact Assessment Act 1974. Malaysia.
- Marzuki, A. 2009. "A Review on Public Participation in Environment Impact Assessment in Malaysia". Theoretical and Empirical Researches in Urban Management, 3: 126-135.
- Memon, A. 2000. "Devolution of environmental regulation: EIA in Malaysia". Impact Assessment and Project Appraisal, 18: 283-293.
- MfE. 2006. A Guide to Preparing a Basic Assessment of Environmental Effects. Wellington, New Zealand: Ministry for the Environment (ME 767).
- Mustafa, M. 2011, 21-22nd October. "The Role of Environmental Impact Assessment in Addressing Marine Environmental Issue Arising from Oil and Gas Activities: Examples from Malaysia". Paper presented at the International Proceedings of Chemical, Biological & Environmental Engineering (IPCBEE), Cairo, Egypt.
- Ogola, P. F. A. 2007. "Environmental Impact Assessment General Procedures". Paper presented at the Short Course II on Surface Exploration for Geothermal Resources, Lake Navaisha, Kenya.
- Omar, D. 2009, 22-24 April. "Public Participation in Malaysian District Local Planning System". Paper presented at the Second International Conference on Whole Life Urban Sustainability and its Assessment (SUE-MoT), Loughborough, UK.
- Omar, D., and Leh, O. L. H. 2009. "Malaysian Development Planning System: Kuala Lumpur Structure Plan and Public Participation". Asian Social Science, 5:30-36.

- Peche, R., and Rodríguez, E. 2009. "Environmental impact assessment procedure: A new approach based on fuzzy logic". Environmental Impact Assessment Review, 29:275–283.
- Phillips, J. 2011. "The conceptual development of geocybernetic relationship between sustainable development and Environment Impact Assessment". Applied Geography, 31:969-979.
- Rahman, M. M., Daud, M., Bardaie, M. Z. and Hassan, M. N. 2001. "Knowledge Based Approach for Environmental Compliance Auditing of EIA Projects: A Case Study of Malaysia". Paper presented at the Portland International Conference on Management of Engineering and Technology 2001 (PICMET '01), Portland, Oregon.
- Saldanha, L. F., Naik, A., Joship, A., and Sastry, S. 2011. "Green Tapism: A Review of the Environmental Impact Assessment Notification." Social Change, 41:171-181.
- Sinclair, A. J., Diduck, A., and Fitzpatrick, P. 2008. "Conceptualizing Learning for Sustainability through Environmental Assessment: Critical Reflections on 15 years of Research." Environmental Impact Assessment Review, 28: 415-428.
- Scott, J., and Ngoran, J. M. 2003. Public Participation in Environmental Impact Assessment (EIA) with case studies from: England, Denmark and New Zealand. (International Masters Degree in Environmental Policy and the Global Challenge), Roskilde University, Roskilde, Denmark.
- Wood, C. 2003. 24-25 November 2003. "Environmental Impact Assessment in Developing Countries: An Overview." Paper presented at the Conference on New Directions in Impact Assessment for Development: Methods and Practice, University of Manchester, Manchester.
- Zhenxing, C. and Hiufeng, X. 2010. "China's EIA System in Progress: An in-depth research about China's EIA System". Paper presented at the 2nd Conference on Environmental Science and Information Application Technology, Wuhan, China.