



**JOURNAL OF TOURISM,
HOSPITALITY AND
ENVIRONMENT MANAGEMENT
(JTthem)**
www.jthem.com



**AN INTEGRATED HOLISTIC APPROACH TO IMPROVING THE
THEORY OF ENVIRONMENTAL AND SOCIAL IMPACT
ASSESSMENT (ESIA) FOR URBAN PLANNING DEVELOPMENT
IN MALAYSIA**

Loh Yong Seng^{1*}, Siti Isma Hani Ismail², Shanker Kumar Sinnakaudan², Zulfairul Zakaria², Mohd Fairuz Bachok³

¹ School of Housing, Building, and Planning, Universiti Sains Malaysia, 11800, USM, Penang, Malaysia
Email: lys15_hpm047@student.usm.my

² Centre for Civil Engineering Studies, College of Engineering, Universiti Teknologi MARA, Cawangan Pulau Pinang, Kampus Permatang Pauh Permatang Pauh Pulau Pinang, Malaysia
Email: ismahani.publication@gmail.com

³ Centre for Civil Engineering Studies, UiTM Cawangan Johor, Kampus Pasir Gudang, Malaysia
Email: mohdfairuz@uitm.edu.my

* Corresponding Author

Article Info:

Article history:

Received date: 15.03.2023

Revised date: 10.04.2023

Accepted date: 31.05.2023

Published date: 06.06.2023

To cite this document:

Loh, Y. S., Ismail, S. I. H., Sinnakaudan, S. K., Zakaria, Z., & Bachok, M. F. (2023). An Integrated Holistic Approach To Improving The Theory Of Environmental And Social Impact Assessment (Esia) For Urban Planning Development In Malaysia. *Journal of Tourism Hospitality and Environment Management*, 8 (32), 41-49.

DOI: 10.35631/JTthem.832003.

Abstract:

All environmental legislation, laws, and regulations must be followed by the construction industry in Malaysia. Before starting a new project, the relevant project must undergo two major assessments namely the Environment Impact Assessment (EIA) and the Social Impact Assessment (SIA) (SIA). The goal of this study is to evaluate the theoretical framework of EIA and SIA current practice/implementation for construction project approval by Malaysian authorities and recommend suitable holistic approach in ESIA theoretical framework for approving system. The collected data from 175 respondents via structured questionnaire survey and analyzed using SPSS Software, are then used to create and recommend an appropriate ESIA framework for adaptation. Overall, the study aims to improve Malaysia's approval system by recommending an integrated holistic approach to project approval based on ESIA theoretical framework, in accordance with environmental legislation, laws, and regulations. Besides, the framework will provide information, guidance and materials in this volume than able to assist EIA and SIA practitioners in these countries to design and implement processes that correspond to international standards of good practice.

This work is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)

**Keywords:**

Integrated Holistic Approach, Environmental, Social Impact Assessment, Framework, Urban Planning Development

Introduction

Malaysia has experienced rapid economic development in recent years, with many construction projects being built in densely populated areas. However, these projects can have significant impacts on the environment, infrastructure, and communities (Morgan, 2012; Zainon et al., 2016; Mahmud, 2022). To address these impacts, the Malaysian government has established two assessments for the construction industry: the Environmental Impact Assessment (EIA) and the Social Impact Assessment (SIA). The primary objective of the EIA is to provide decision-makers with an assessment of the likely environmental consequences of a proposed development before a decision is made (Zvijáková et al., 2014; Salvador et al., 2018). Similarly, the SIA aims to analyze and evaluate the expected and unintended positive and negative social impacts of proposed interventions (Hassan, 2018; Gulakov et al., 2020).

Despite the implementation of the EIA for over 25 years in Malaysia, the EIA activities have not met the standards of successful environmental management and sustainable development (Makmor and Ismail, 2016; Vardopoulos, 2019). One reason for this is the lack of specific guidelines to assist in the preparation of EIA reports for diverse industries, which makes it difficult to evaluate and measure the environmental impact of development projects (Corsi, 2015; Makmor, M., & Ismail, 2016). However, an integrated approach, such as Environmental and Social Impact Assessment (ESIA), could provide a more nuanced understanding of the complex impacts of projects, programs, and policy initiatives (Dendena and Corsi, 2015; Kirchherr et al., 2016; Mahmud, 2022).

In Malaysia, project proponents must register with the online system by the One Stop Center (OSC) prior to the development submission of projects falling within the EIA and SIA categories (Toro, et al., 2011; Vardopoulos, 2019). The EIA or SIA report must be approved by the local authority before accepted by OSC, which can take between 6 months to 1 year. This delay can increase the ultimate cost of the project. However, research studies have shown that the EIA can play a significant role in promoting and improving technical and scientific understanding in different fields, providing guidance on the design of development projects, enhancing system governance, and modifying society's attitudes (Dendena and Corsi, 2015). Thus, efficient infrastructure is a prerequisite for development funding, and all projects should generate positive non-economic impacts and provide social gains (Zamojska and Próchniak, 2017).

To improve the approval system in Malaysia, this study aims to evaluate the theoretical framework of the current EIA and SIA practices and recommend the adoption of an integrated, holistic approach to ESIA in project approval. To achieve this, the study will review the EIA, SIA, and ESIA framework from a few countries, such as Malaysia, Thailand, United Kingdom (Scotland), and the Democratic People's Republic of Laos. Finally, the study will develop and recommend a new ESIA framework that may be used by local authorities for the approval system.

Hence, the need to develop an integrated approach to assessment and planning, as well as to identify a better holistic framework, may be tested in a variety of situations. By analysing the interview results, the framework can be improved in a way that increases the likelihood of its widespread use in the future. If the pilots were successful, the framework would be widely disseminated. As a result, there has never been a greater need for an integrated and comprehensive approach to impact assessment and development planning.

Methodology

A comprehensive desk study was conducted to collect information on the EIA, SIA, and ESIA processes. This involved a review of several documents, including reports, policies, legislation, books, journals, and internet articles. Primary data was also collected from policymakers, EIA practitioners, and the public through structured interviews and questionnaires.

A questionnaire was developed for the field study, which was distributed to 175 respondents, including the MBSP, consultants, and the public. The questionnaire sought to gather opinions on the practice of EIA, SIA, and ESIA in Malaysia, as well as perceptions of these processes from different countries. The data collected was analysed using SPSS software, with ranking analysis by frequency, mean, and standard deviation.

The results of the study were used to compare the perceptions of authorities towards EIA and SIA in different countries and to develop a new ESIA framework. The local authorities, clients, and project consultants will use the results to generate an ESIA framework for implementation. Figure 1 provides a flowchart summarising the process for establishing a new ESIA framework.

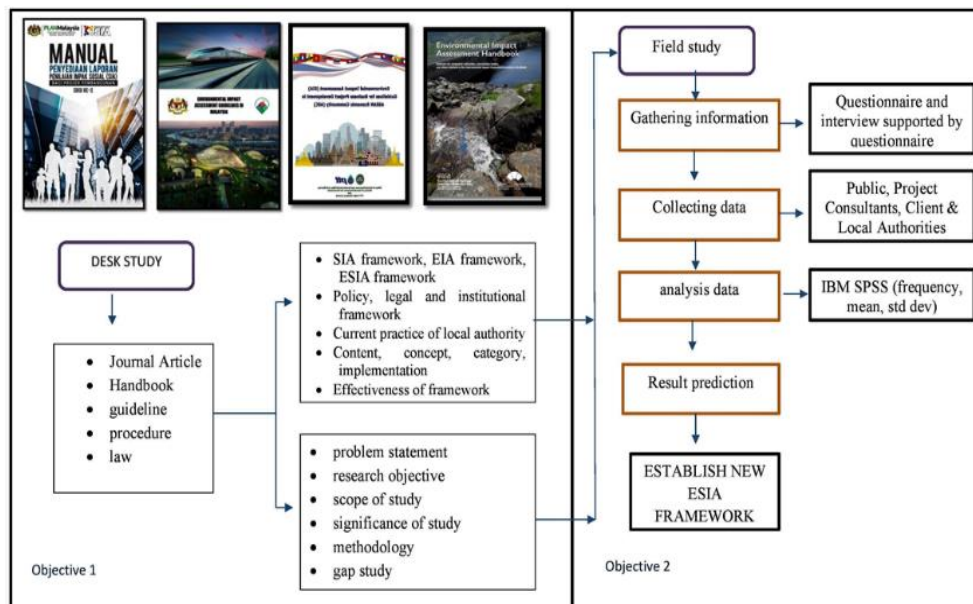


Figure 1: Flowchart of Research Method

Result and Discussion

The study involved soliciting professional opinions from respondents regarding the current EIA and SIA practices in Malaysia. The aim was to evaluate the effectiveness of the current practices and to establish a new integrated ESIA framework. Most of the respondents provided

favourable feedback on the overall implementation of the EIA and SIA processes in Malaysia, which is crucial in assessing progress in the industry.

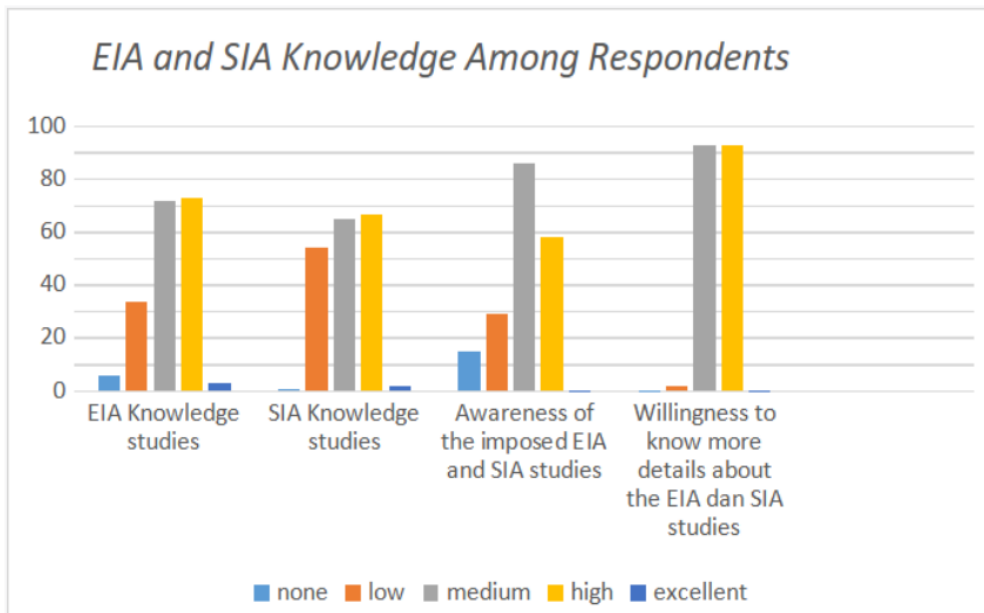


Figure 2: EIA and SIA Knowledge Among Respondents

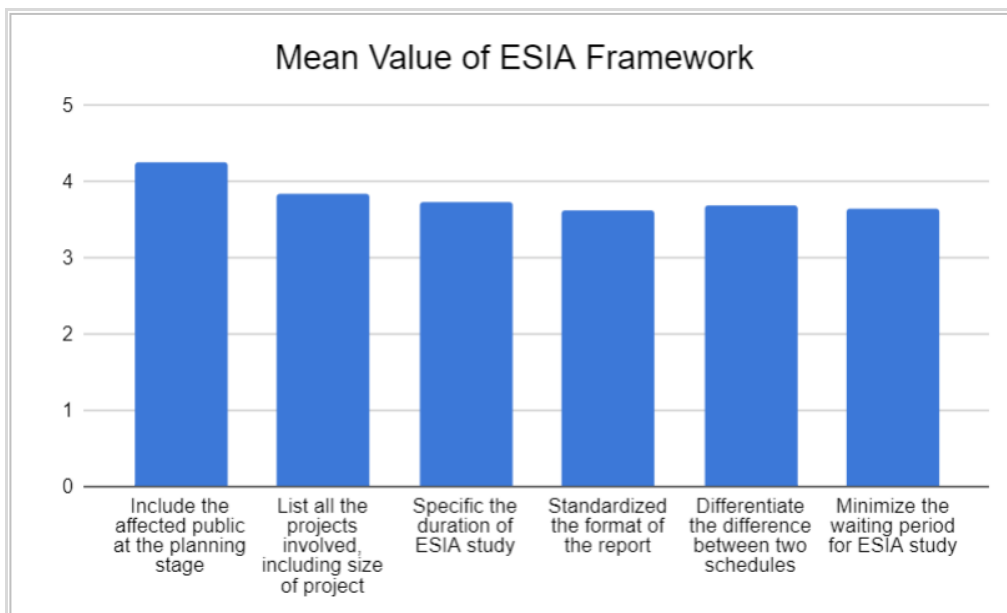


Figure 3: Mean Value for Improvement in the ESIA System

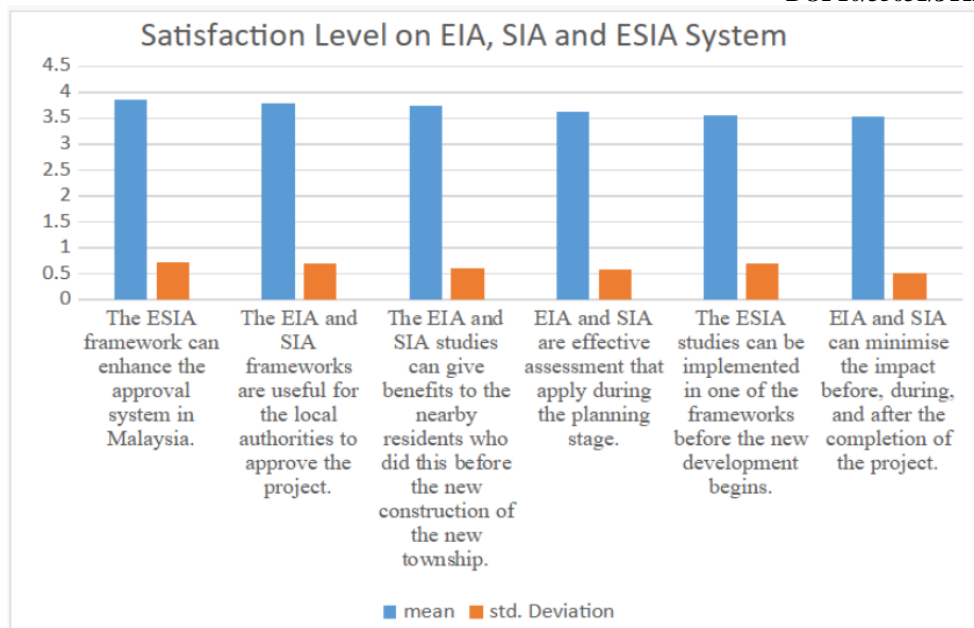


Figure 4: Satisfaction Level on EIA, SIA and ESIA System

Improving the ESIA system based on current practices of EIA and SIA is crucial to achieving a standard framework that is comparable to developed countries (Salvador et al., 2018; Akbari et al., 2020; Mahmud, 2022). This study identifies the affected public as a higher-ranking stakeholder in the planning stage, with a mean score of 4.26. As documented by Zvijáková et al. (2014), the public has the right to access information and participate in decision-making processes that could impact their lives, resources, and properties.

Figure 3 highlights that the majority of respondents acknowledge that different categories of projects require different scales and types of EIA and SIA. This is attributed to the varying degrees of environmental and social impacts that projects could cause. Respondents also agreed, with a mean score of 3.73, on the importance of minimizing the duration of ESIA studies, as emphasised by Kosamu (2011) in reducing the financial burden of the project proponent during the waiting period.

Furthermore, Figure 4 illustrates that most respondents agreed that the ESIA framework could improve Malaysia's approval system, with a mean value of 3.85. However, additional research is necessary to substantiate this theory in Malaysia. Vanclay's (2020) study on the implementation of SIA standards in Russia reveals that lack of understanding of international standards and practices by company staff, tension between international and national standards, discrepancies in determining the social area of influence, complexity in combining national and international impact assessment processes, and limited stakeholder engagement are key challenges. These findings may be relevant to the introduction of the ESIA system in Malaysia. To enhance the performance of infrastructure projects, integrated efforts are needed to address uncertainties and ensure successful project management (Salvador et al., 2018; Halouani et al., 2020).

According to the questionnaire survey results, the EIA and SIA frameworks are deemed useful by respondents for local authorities to approve projects, with a mean score of 3.78. Prior to commencing any development or project, developers are required to engage a registered consultant to conduct an EIA or SIA study (Vardopoulos, 2019). As noted by Kylili and Fokaides (2017), governments have the responsibility of monitoring the environmental performance of the construction industry and developing appropriate measures to address this public concern. Approval from local authorities serves as a double-check mechanism to ensure that environmental and social mitigation measures are in place (Josimovic et al, 2021; Mahmud., 2022).

In line with the recommendations by Jalali et al. (2018), it is crucial to submit inspection checklists at the end of EIA reports and review them at various stages of project execution to ensure compliance with the EIA regulations. This includes assessing the feasibility of design execution during the early stages of the project (zero phase) and devising appropriate strategies to prevent any significant environmental damage and related issues during project execution (Vardopoulos et al., 2019; Ramos et al., 2021).

Establishment of ESIA Framework

In order to address the objective of this study, a new framework for the Environmental and Social Impact Assessment (ESIA) study has been developed and is presented in Figure 5. The first step in this process is the screening process, which should be carried out by the project proponent and a qualified consultant (EIA or SIA consultant) to determine whether the proposed project falls under the first or second schedule, as indicated in the framework.

For projects falling under the first schedule, public participation is required during the scoping stage, while projects under the second schedule only require a consultant, authority, and project proponent. During the scoping stage, the project proponent and consultant will prepare a Terms of Reference (TOR) report in consultation with the Department of Environment (DOE). Additionally, the ESIA recommendations issued by the DOE for specific projects must follow the scoping procedure for assessing the environmental impact of those projects. The project developer must receive approval from DOE for the scoping/TOR prior to commencing the actual ESIA studies. Furthermore, projects falling under the first schedule are typically construction activities with minimal impact on the environment and social surroundings, whereas projects falling under the second schedule will have greater impact if mitigation measures are not taken.

Subsequently, the principle submitted should be applied for permission to plan through the Online Submission Centre (OSC). The online OSC application will take 98 days, consisting of the technical department and the main department, which will include the waiting period for the submission of the OSC Committee. At the end of the application, the OSC Committee will determine whether the project has passed (receiving the C1 form), failed (receiving the C2 form), or has been postponed until all necessary documents have been completed.

The C1 form certifies that the applicant has met the criteria of the ESIA programme, and that the planned project will not have any adverse environmental impacts. It also certifies that the proponent is committed to implementing their approved management plan for the area. The final stage is the application for planning permission. The proposed framework is expected to take 27 weeks for Schedule 1 and 48 weeks for activities covered by Schedule 2. As a result,

the duration of the assessment will be minimised as compared to the current EIA and SIA studies.

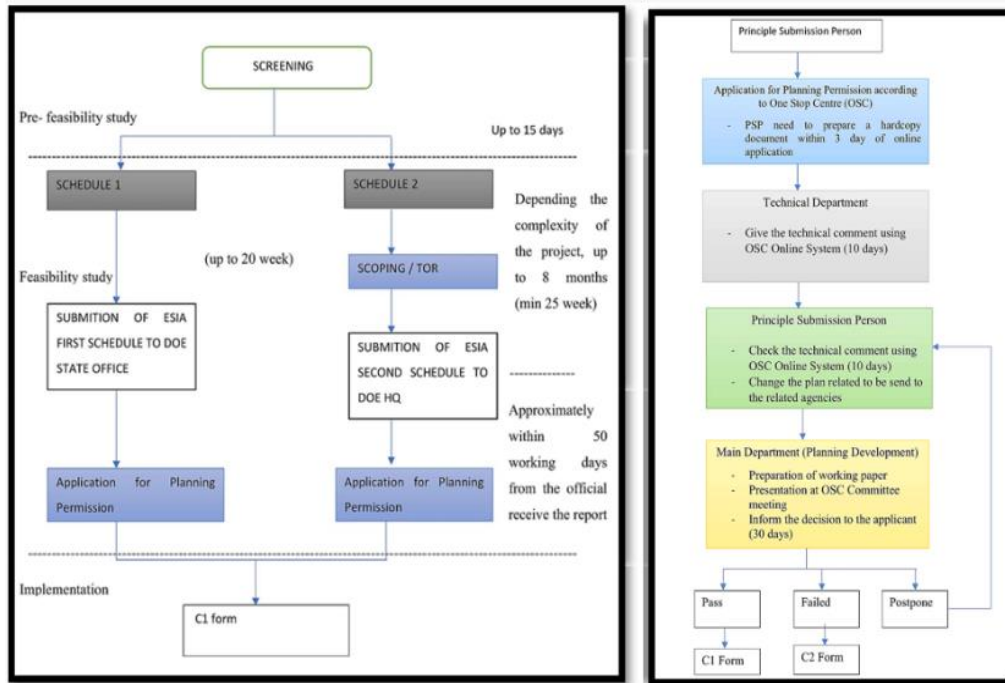


Figure 5: Newly Proposed ESIA Framework

The guidance and materials in this framework will be able to assist EIA and SIA practitioners in these countries in designing and implementing processes that adhere to international best practices (Salvador et al., 2018). EIA and SiA processes that promote an integrated approach and eventually provide for or contribute to a full consideration of the environmental, economic, and social aspects of development proposals at all levels of decision-making will be seen as increasingly effective and successful (Vardopoulos et al., 2019).

Contribution of the Study

This research is able to provide knowledge to understand the environmental, social and cultural consequences of the plan and the unplanned project. It can also improve the construction system in Malaysia by knowing the environmental and social impact at the planning stage. Thus, authorities are able to use an ESIA framework as a manual for all construction projects. Besides, this study is able to contribute to the academic field through the introduction of modern ESIA system knowledge to replace the current EIA and SIA system.

Conclusion and Recommendation

Based on the data and analysis, it can be concluded that the implementation of the ESIA framework for construction projects has the potential to improve the approval system and increase environmental and social awareness for better site planning management, as agreed by most respondents. However, it is important for all stakeholders to be aware of the issues under the framework, as they will have an impact on the timing and performance of the project. Continued dialogue between all parties is recommended to address any challenges and opportunities arising from the ESIA and policy implementation during and after the project.

This can be achieved through monitoring public meetings to produce cumulative data as an ongoing legislative process.

For future studies, it is recommended that the sample size be increased to include more local authorities and experts with experience in performing the ESIA assessment. An accreditation system should also be developed to specify the qualifications of institutions capable of effectively implementing the ESIA process. Lastly, involving more respondents in the infrastructure development will yield better and more reliable results. The government should focus on developing an appropriate policy for all parties involved in an ESIA study for construction projects by prioritising infrastructure development.

Acknowledgement

The authors would like to express their gratitude and thanks to Universiti Teknologi MARA Cawangan Pulau Pinang for funding this research.

References

- Akbari, N., Jones, D., & Treloar, R. (2020). A cross-European efficiency assessment of offshore wind farms: a DEA approach. *Renewable Energy*, (151), 1186–1195.
- Corsi, S., Oppio, A., & Dendena, B. (2015). ESIA (Environmental and Social Impact Assessment): a Tool to Minimize Territorial Conflicts. *Chemical Engineering Transactions*, (43), 2215–2220.
- Dendena, B., & Corsi, S. (2015). The Environmental and Social Impact Assessment: a further step towards an integrated assessment process. *Journal of Cleaner Production*, (108), 965–977.
- Gulakov, I., Vanclay, F., Ignatev, A., & Arts, J. (2020). Challenges in meeting international standards in undertaking social impact assessment in Russia. *Environmental Impact Assessment Review*, 83.
- Halouani, G., Villanueva, C. M., Raoux, A., Dauvin, J. C., Ben Rais Lasram, F., Foucher, E. (2020). A spatial food web model to investigate potential spillover effects of a fishery closure in an offshore wind farm. *Journal of Marine Systems*, (212), 103-1
- Hassan, M. M. (2018). Social Impact Assessment (SIA): A Review of SIA Procedure in Malaysia. *International Journal of Social Sciences and Humanities Invention*, (4), 4550–4557.
- Jalali, I., Poorhashemi, S. M., & Mirjalili, A. (2018). Investigating Environmental Impact Assessment (EIA) In Early Studies (Zero-Phase) to Prevent Delay in Operation of Construction Projects. *Civil Engineering Journal*, 4(1), 117–128.
- Josimovic, B., Cvjetic, A., & Furundzic, D. (2021). Strategic Environmental Assessment and the precautionary principle in the spatial planning of wind farms – European experience in Serbia. *Renewable and Sustainable Energy Reviews*, (136), 110-119
- Kirchherr, J., & Charles, K. (2016). The social impacts of dams: A new framework for scholarly analysis. *Environmental Impact Assessment Review*, (60), 99-114.
- Kosamu, I. B. M. (2011). Environmental impact assessment application in infrastructural projects in Malawi. *Sustainability Science*, 6(1), 51–57.
- Kylili, A., & Fokaides, P. A. (2017). Policy trends for the sustainability assessment of construction materials: A review. *Sustainable Cities and Society*, (35), 280–288.
- Kelaziman, P. M. (n.d.). Penilaian impak sosial (SIA) [Social impact assessment].

- Mahmud, A. R. (2022). Challenges in Implementation of Environmental Impact Assessment Among Islamic Countries. *Sains Insani, Special Issues*, (1), 88-98.
- Makmor, M., & Ismail, Z. (2016). An analysis on the application of EIA process in Malaysia. *Journal Teknologi*, 78(11), 191–200.
- Morgan, R. K. (2012). Environmental impact assessment: The state of the art. *Impact Assessment and Project Appraisal*, 30(1), 5-14.
- Ramos, V., Giannini, G., Calheiros-Cabral, T., Rosa-Santos, P., & Taveira-Pinto, F. (2021). Legal framework of marine renewable energy: a review for the Atlantic region of Europe. *Renewable and Sustainable Energy Reviews*, (137), 110-126.
- Salvador, S., Gimeno, L., & Sanz Larruga, F. J. (2018). The influence of regulatory framework on environmental impact assessment in the development of offshore wind farms in Spain: issues, challenges and solutions. *Ocean & Coastal Management*, (161), 165–176.
- Smyth, E., & Vanclay, F. (2017). The Social Framework for Projects: a conceptual but practical model to assist in assessing, planning and managing the social impacts of projects. *Impact Assessment and Project Appraisal*, 35(1), 65–80.
- Toro, J., Duarte, O., Requena, I., & Zamorano, M. (2011). Determining Vulnerability Importance in Environmental Impact Assessment: The Case of Colombia. *Environmental Impact Assessment Review*, (32), 107-117.
- Vardopoulos, I. (2019). Environmental impact assessment scoping report. Residential complex in Rafina - Pikermi city, Greece. *Sustainable Development, Culture, Traditions Journal*, (1), 63–79.
- Zvijáková, L., Zeleňáková, M., Purcz, P., & Zvijja, L. (2014). Evaluation of environmental impact assessment effectiveness in Slovakia. *Impact Assessment and Project Appraisal*, 32(2), 94-102.
- Zamojska, A., & Próchniak, J. (2017). Measuring the Social Impact of Infrastructure Projects: The Case of Gdańsk International Fair Co. *Journal of Entrepreneurship, Management and Innovation*, (13), 25–42.