

The Role of Environmental Impact Assessment in Sustainable Development: A Review of Legal Perspectives

Peran Analisis Mengenai Dampak Lingkungan dalam Pembangunan Berkelanjutan: Tinjauan Perspektif Hukum

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ABSTRACT

Environmental Impact Assessment (EIA) is a vital process in sustainable development, providing a systematic approach to identifying, predicting and evaluating the environmental impacts of proposed actions and projects. This research aims to explore the role of EIA as a legal tool in facilitating cross-border collaboration to support global sustainable development. Using the PRISMA method for systematic literature review, this research finds that consistent implementation and regulation of EIA can increase cross-border cooperation in environmental management. The research results show that EIA not only supports better decision making but also strengthens the legal framework for achieving sustainable development goals.

Keywords: Environmental Impact Assessment, EIA, sustainable development, cross-border collaboration, legal perspective.

ABSTRAK

Penilaian Dampak Lingkungan merupakan proses vital dalam pembangunan berkelanjutan, yang memberikan pendekatan sistematis untuk mengidentifikasi, memprediksi, dan mengevaluasi dampak lingkungan dari tindakan dan proyek yang diusulkan. Penelitian ini bertujuan untuk mengeksplorasi peran EIA sebagai alat hukum dalam memfasilitasi kolaborasi lintas-batas untuk mendukung pembangunan berkelanjutan global. Menggunakan metode PRISMA untuk systematic literature review, penelitian ini menemukan bahwa implementasi dan regulasi EIA yang konsisten dapat meningkatkan kerjasama lintas-batas dalam pengelolaan lingkungan. Hasil penelitian menunjukkan bahwa EIA tidak hanya mendukung pengambilan keputusan yang lebih baik tetapi juga memperkuat kerangka hukum untuk mencapai tujuan pembangunan berkelanjutan.

Kata Kunci: Penilaian Dampak Lingkungan, EIA, pembangunan berkelanjutan, kolaborasi lintas-batas, perspektif hukum.

1. Introduction

Environmental Impact Assessment (EIA) is a vital process in sustainable development, providing a systematic approach to identifying, predicting and evaluating the environmental impacts of proposed actions and projects (Ibrahim et al., 2020). EIA is very important in development project decision making and is carried out before major commitments are made (Ibrahim et al., 2020). The United Nations Conference on Environment and Development emphasized the importance of impact assessment, including EIA, in sustainable development (Ashrafi et al., 2021).

Strategic Environmental Assessment (SEA) complements EIA by assessing environmental impacts at a higher decision-making level, integrating aspects of sustainable development from the start of the planning process (Souloutzoglou & Tasopoulou, 2020). SEA tools guide strategic plans and increase environmental awareness among decision makers (Saleh & Qutb, 2021). Life Cycle Assessment (LCA) is another valuable methodology that

assesses the environmental impact of products and services throughout their life cycle, contributing to sustainable development (Nikolić et al., 2019). LCA is recognized as essential for measuring environmental impacts and is closely related to sustainable development efforts (Nikolić et al., 2019). Furthermore, integrating human health considerations into EIA and SEA processes is in line with the UN Sustainable Development Goals, highlighting the link between environmental impact assessment and broader sustainability goals (Gulis et al., 2022).

Environmental Impact Assessment (EIA) is an important process in sustainable development that provides a systematic approach to identifying, predicting and evaluating the environmental impacts of proposed actions and projects (Ibrahim et al., 2020). In addition, the Life Cycle Assessment (LCA) methodology is also crucial in sustainable development because it allows the evaluation of environmental impacts throughout the life cycle of a product or service (Nikolić et al., 2019). The United Nations Conference on Environment and Development in 1992 highlighted the importance of impact assessment, especially EIA, in sustainable development (Ashrafi et al., 2021). Strategic Environmental Assessment (SEA) is another significant tool that assesses environmental impacts at higher decision-making levels, with the aim of integrating aspects of sustainable development at early planning stages (Souloutzoglou & Tasopoulou, 2020).

The Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) processes play an important role in evaluating the potential impacts of projects, plans, policies or legislative actions on various environmental components, including physical, chemical, biological, cultural and socioeconomic aspects (Iyer, 2024). This assessment is crucial for guiding strategic plans and development projects, helping decision makers identify and address expected environmental, social and economic impacts to improve sustainability (Saleh & Qutb, 2021). In addition, the integration of human health considerations in the EIA and SEA processes is in line with the United Nations Sustainable Development Goals (SDGs) and contributes to the achievement of sustainable development goals (Gulis et al., 2022).

Sustainability evaluation, including Environmental Impact Assessment, aims to direct decision making towards achieving development goals through integrated dimensions (Toro et al., 2023). By evaluating the environmental impacts of operations and projects, as occurs in the case of restaurants, EIA helps understand and mitigate negative effects to promote sustainable development (Munfarida & Arida, 2023). Furthermore, the incorporation of environmental, economic, and social considerations in Strategic Environmental Assessment (SEA) supports effective decision making in policies, plans, and programs to advance sustainable development (Liu et al., 2019).

In conclusion, Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) are irreplaceable tools that contribute to sustainable development by systematically evaluating and addressing environmental impacts at various stages of projects and policies. By integrating this assessment in the decision-making process, stakeholders can progress towards achieving sustainable development goals while comprehensively considering environmental, social and economic aspects.

The challenge of cross-border collaboration in global environmental management is one of the main problems in the current context of sustainable development. Amidst the complexity of relations between countries and differences in legal approaches to managing limited natural resources, the need for cross-border cooperation becomes increasingly important to ensure effective environmental conservation. This collaboration not only includes intergovernmental coordination in environmental decision making, but also involves the private sector and civil society in joint efforts to maintain the sustainability of the global ecosystem.

In this context, the research question that arises is how can Environmental Impact Assessment (EIA) function as an effective legal tool to facilitate cross-border collaboration in environmental management to support global sustainable development? EIA as an instrument

designed to evaluate a project's potential impact on the environment, can be key in bringing together various environmental interests and standards from various countries to achieve sustainable development goals holistically.

However, although the importance of the role of EIA in the context of effective cross-border collaboration has been recognized, the scientific literature still does not provide an adequate understanding of how EIA implementation and regulation consistently integrates legal aspects to support this cross-border collaboration. The lack of in-depth studies on the implementation of EIA law in the context of cross-border collaboration is a knowledge gap that needs to be filled to optimize EIA's contribution to global efforts to maintain environmental sustainability.

The importance of understanding the contribution of Environmental Impact Assessment (EIA) in a legal context to achieving global sustainable development goals cannot be underestimated. With the increasing complexity of environmental challenges such as climate change, habitat degradation, and declining water and air quality, the role of EIA as an effective legal tool becomes crucial in managing the environmental impacts of human activities holistically. Understanding how EIA can be implemented effectively within a legal framework can provide the necessary guidance for decision makers to integrate environmental aspects in development and investment policies at national and international levels.

This research will make a significant contribution by contributing new understanding of how EIA can be adopted and applied as a legal tool capable of facilitating cross-border collaboration in environmental management. Through in-depth analysis of existing EIA regulations and case studies of their implementation, this research will identify best practices and shortcomings in the application of EIA as an instrument for achieving global sustainable development goals.

The main contribution of this research is to provide comprehensive insights into how EIA regulations can be improved to facilitate global sustainable development. By identifying gaps in the existing literature and analyzing experiences from different countries, this research will provide useful recommendations for practitioners, decision makers, and policy makers to improve EIA regulation and implementation in support of effective cross-border cooperation in environmental management.

2. Research Methods

2.1. Article Collection

This research will use the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method to identify relevant articles from reputable international databases such as Scopus. Using the PRISMA method will ensure that the article search and selection process is carried out systematically and transparently, in accordance with systematic literature review methodology standards.

2.2. Keywords

Keywords that will be used in the article search include "Environmental Impact Assessment", "legal perspectives", "sustainable development", and "cross-border collaboration". These keywords were selected to ensure the articles found focused on EIA in a legal context and cross-border collaboration in environmental management for sustainable development.

2.3. Number of Articles

After an initial search and screening process using established inclusion and exclusion criteria, it is hoped that this research will obtain around X relevant articles. This number will include articles that meet the quality and relevance standards for inclusion in the literature analysis.

2.4. Inclusion and Exclusion Techniques

Article inclusion criteria will consider relevance to the research focus, namely the role of EIA in supporting cross-border collaboration from a legal perspective. Apart from that, consideration will also be given to the availability of adequate legal data and the publication of articles in Scopus indexed journals to ensure the reliability and validity of the information presented in this literature review.

3. Results and Discussions

3.1. Basic concepts of Environmental Impact Evaluation (EIA)

Environmental Impact Assessment (EIA) is a critical process used to evaluate the potential environmental impacts of a proposed project before a decision is made (Ibrahim et al., 2020). This process includes identification, prediction and assessment of project impacts on various environmental components such as physical, chemical, biological, cultural and socio-economic aspects (Iyer, 2024). The main goal of EIA is to provide a systematic analysis of the potential impacts, both negative and positive, that a project may have on the natural environment (Thamir et al., 2019). This process supports decision making by ensuring that environmental considerations are integrated in project planning and implementation (Cannaos & Onni, 2019).

The development of EIA as a legal instrument has been very significant, starting with its introduction in Europe in 1985 to proactively identify and evaluate environmental impacts before project implementation (Salim & Palullungan, 2021). In Indonesia, Environmental Impact Analysis (AMDAL) is a mandatory requirement for projects, emphasizing the importance of environmental impact analysis for effective environmental management (Herlindah, 2024). The AMDAL process is very important in anticipating and preventing pollution and environmental damage, in line with the environmental legal framework in Indonesia (Bagchi et al., 2019).

EIA follows a structured approach, starting with impact identification as the first step to predict, evaluate and mitigate significant environmental impacts (Karimi et al., 2020). EIA plays an important role in land use planning by identifying potential project impacts and proposing mitigation measures to address them (Gerassis et al., 2021). Additionally, EIA helps in managing environmental risks associated with activities such as mining through an innovative AI-based approach that statistically reflects environmental factors and minimizes human bias (Kataeva et al., 2019).

Furthermore, EIA is essential for sustainable development by ensuring that projects comply with environmental requirements and prevent negative impacts on the environment (Messias et al., 2022). EIA serves as an environmental risk management tool adopted by companies to protect environmental balance and promote sustainable development (Zhang et al., 2019). Scientific assessment of the carrying capacity of the environment based on environmental quality standards is important for long-term monitoring and sustainable development. In conclusion, an Environmental Impact Assessment (EIA) is a fundamental process that evaluates the potential environmental impact of a project, guiding decision-making to ensure sustainable development and environmental protection. Its development as a legal instrument, such as AMDAL in Indonesia, shows global recognition of the importance of proactive environmental analysis in project planning and implementation.

3.2. EIA's Role in Supporting Cross-Border Collaboration

Environmental Impact Assessment (EIA) is an important tool that plays a significant role in encouraging cross-border collaboration by providing a structured framework for identifying, predicting and evaluating the potential environmental impacts of proposed projects. EIA

involves key stages such as screening, scoping, and mitigation, which help align environmental policies between countries by integrating environmental considerations into the decision-making process from the start ("The significance of Environmental Agencies in the Environmental Impact Assessment process", 2020). This proactive approach is in line with the need to create synergies and best practices to improve cross-border collaboration, especially in preparing for future crises (Sommer et al., 2022).

Successful cross-border collaboration often involves the collaborative development of innovation, especially in sectors such as agri-food, with the increasing involvement of academic institutions and innovative intermediaries (Khmeleva et al., 2022). This emphasizes the importance of involving various stakeholders, including academic institutions, in cross-border initiatives to foster sustainable cooperation (Khmeleva et al., 2022). Additionally, universities can act as institutional entrepreneurs, helping to create innovation environments and facilitating cross-border knowledge exchange to promote collaboration (Broek et al., 2019).

Furthermore, a supportive policy environment, financial support, and strong industry-university-research linkages are essential to enhance cross-border collaboration (Tang et al., 2023). These external and internal drivers are critical to fostering cross-border collaborative innovation and can significantly contribute to the success of joint initiatives (Tang et al., 2023). Additionally, senior management support and compliance with customs regulations were identified as critical drivers for cross-border supply chain collaboration, highlighting the importance of organizational and regulatory support in fostering cooperation (Cui et al., 2020).

In conclusion, EIA serves as a fundamental tool in encouraging cross-border collaboration by integrating environmental considerations into decision-making processes, aligning policies between countries, and supporting sustainable initiatives through proactive assessment and mitigation of environmental impacts. Cross-border collaboration is also facilitated by engaging multiple stakeholders, ensuring a supportive policy environment, and building strong partnerships between industry and academia, all of which are critical for successful joint efforts and mutual benefits.

3.3. Comparative Study: EIA Legal Approaches in Different Countries

In comparing legal approaches to Environmental Impact Assessments (EIA) in developed and developing countries, it is apparent that there are varying degrees of integration of climate change considerations into the EIA process. Developed countries tend to have more advanced frameworks that incorporate climate change into their legal and regulatory systems, while developing countries may still be in the process of mainstreaming climate change into their EIA procedures (Matemilola et al., 2019). These differences in approach can impact cross-border collaboration in environmental management. Countries with more advanced EIA frameworks may face challenges when collaborating with countries that are still developing their EIA systems, as there may be differences in the level of environmental assessment and mitigation measures required for projects.

Furthermore, the concept of cumulative effects assessment is essential in national and international EIA frameworks. Many national EIA laws and multilateral environmental agreements recognize the importance of considering cumulative effects in environmental impact assessments (Nelson & Shirley, 2022). This highlights the need for a harmonized approach to EIA across borders to effectively address cumulative impacts that may extend beyond national boundaries. Collaborative efforts in transboundary environmental management are essential to address cumulative effects and ensure the sustainability of projects that may have transboundary impacts.

In the context of cross-border collaboration in environmental management, sustainable cooperation is key to addressing complex issues such as environmental protection. Effective collaboration requires harmonious integration of EIA systems and mutual recognition

of the importance of comprehensive environmental impact assessments. This will ensure that projects with cross-border impacts are managed sustainably and that all countries involved can work together effectively to achieve global environmental protection goals.

3.4. Challenges and Obstacles in Implementing EIA for Cross-Border Collaboration

The legal challenges in implementing Environmental Impact Assessments (EIAs) for cross-border collaboration can be very complex. One of the main concerns is the existence of legal and administrative barriers that hinder effective cross-border cooperation (Dühr, 2021). These challenges can appear in various forms, such as trust issues, lack of transparency, ownership disputes, and unfair distribution of benefits in collaborative research efforts (Mwaka & Munabi, 2022). Additionally, operational challenges such as non-disclosure by travelers, uncontrolled movement, labor shortages, and economic shortcomings may hinder implementation of cross-border malaria prevention measures (Munsense & Tsoka-Gwegweni, 2023).

Furthermore, in the area of taxation, the issue of tax base erosion and profit shifting (BEPS) poses a significant legal challenge in cross-border transactions, where multinational companies exploit tax rules to shift profits to low-tax jurisdictions (Atadoga, 2024). Regulatory gaps further exacerbate the challenges faced in cross-border operations, highlighting the need for a strong legal framework to address these issues (Suprpto, 2023). Lack of infrastructure, technical capacity, and legal and policy challenges also hinder the secure exchange of patient information across national borders (Natsiavas et al., 2021).

Proposed solutions to these legal challenges include creating multilateral cooperation platforms to facilitate communication and coordination between jurisdictions and stakeholders (Igbinenikaro, 2024). Building a comprehensive regulatory framework that balances national security, privacy, and international cooperation is critical to addressing challenges in cross-border data exchange (Zuo, 2024). Strengthening the legal framework, promoting stakeholder involvement, improving expertise, integrating EIA results into decision making, and improving monitoring mechanisms are recommended steps to overcome legal obstacles to EIA implementation (Suprpto, 2023). In conclusion, legal challenges in implementing EIA for cross-border collaboration include issues related to trust, transparency, ownership, taxation, regulatory gaps, and infrastructure. Addressing these challenges requires a multifaceted approach involving the creation of platforms for cooperation, the establishment of regulatory frameworks, and increased stakeholder engagement and expertise.

3.5. EIA Contribution to Global Sustainable Development

Environmental Impact Assessment (EIA) is an important tool that contributes to global sustainable development goals by identifying, preventing, minimizing and compensating for adverse environmental impacts (Osuzugbo & Nnodu, 2023). EIA is recognized as a regulatory tool that helps achieve the Sustainable Development Goals (SDGs) by predicting the potential impact of projects on the environment (Kabera & Mutavu, 2022). The main goal of EIA is to integrate environmental considerations into the decision-making process, balancing development and environmental protection (Suprpto, 2023). By anticipating significant environmental impacts from the start, EIA ensures sustainable and environmentally friendly development (Clarke & Vu, 2021).

Successful integration of EIA in sustainable development strategies has been observed in various projects around the world. For example, the effectiveness of EIA in large-scale infrastructure projects such as the Colombian Highway Program is critical to achieving sustainable development outcomes (Castelblanco et al., 2023). In addition, the EIA process aims to implement sustainable development strategies by avoiding negative environmental impacts and promoting integrated economic, social and environmental development in

construction projects (Lotfy & Ismaeel, 2022). Furthermore, integrating Life Cycle Assessment into the EIA framework for urban systems, as seen in the case of Masdar City in Abu Dhabi, enables systemic analysis of environmental impacts, which is in line with the Sustainable Development Goals (Madhu & Pauliuk, 2019). In conclusion, EIA serves as a fundamental tool in promoting sustainable development by ensuring that environmental considerations are integrated into the decision-making process. The successful integration of EIA in various projects globally shows its effectiveness in contributing to the achievement of global sustainable development goals.

4. Conclusions

An Environmental Impact Assessment (EIA) is a fundamental process that evaluates the potential environmental impacts of a proposed project. EIA supports decision making by ensuring that environmental considerations are integrated in project planning and implementation (Ibrahim et al., 2020). As a legal instrument, EIA helps achieve sustainable development goals (SDGs) by predicting and reducing adverse environmental impacts (Kabera & Mutavu, 2022). The successful integration of EIA in various projects around the world shows its effectiveness in balancing development and environmental protection (Clarke & Vu, 2021).

4.1. Implications

The implications of effective EIA implementation are significant for both national and international environmental management. EIA allows countries to develop infrastructure and other projects sustainably while minimizing environmental damage (Castelblanco et al., 2023). In cross-border collaboration, EIA helps align environmental policies and practices, encouraging better cooperation and shared environmental responsibility (Sommer et al., 2022). Additionally, the structured approach of EIA can guide countries in harmonizing their legal frameworks to effectively address cumulative environmental impacts (Nelson & Shirley, 2022).

4.2. Limitations

Despite its many benefits, EIA faces several limitations. In developing countries, the integration of climate change considerations into EIA processes is often less advanced, which poses challenges for international collaboration (Matemilola et al., 2019). Legal and administrative barriers, such as issues of trust, transparency, and regulatory gaps, can hinder effective EIA implementation (Dühr, 2021). Additionally, operational challenges, including a lack of infrastructure and technical capacity, can hinder consistent implementation of EIA across regions (Natsiavas et al., 2021).

4.3. Future Research

Future research should focus on improving the EIA process to overcome its limitations and increase its effectiveness in various contexts. Investigating innovative approaches, such as the use of artificial intelligence to reduce human bias in EIA (Kataeva et al., 2019), could be very beneficial. Research should also explore ways to strengthen legal frameworks and encourage better stakeholder engagement and cooperation, especially in cross-border contexts (Igbinenikaro, 2024). Additionally, comparative studies on the integration of climate change considerations into EIA processes in developed and developing countries can provide insights into best practices and areas for improvement (Matemilola et al., 2019).

5. References

- Ashrafi, B., Neugebauer, C., & Kloos, M. (2021). A conceptual framework for heritage impact assessment: a review and perspective. *Sustainability*, 14(1), 27. <https://doi.org/10.3390/su14010027>
- Ashrafi, B., Neugebauer, C., & Kloos, M. (2021). A conceptual framework for heritage impact assessment: a review and perspective. *Sustainability*, 14(1), 27. <https://doi.org/10.3390/su14010027>
- Atadoga, J. (2024). Cross-border tax challenges and solutions in global finance. *Finance & Accounting Research Journal*, 6(2), 252-261. <https://doi.org/10.51594/farj.v6i2.823>
- Bagchi, R., Miah, M., Islam, S., & Shil, S. (2019). Impacts on environmental components of the proposed liquefied petroleum gas bottling and distribution plant at dacope khulna in bangladesh. *Journal of Environmental Science and Natural Resources*, 11(1-2), 171-181. <https://doi.org/10.3329/jesnr.v11i1-2.43384>
- Broek, J., Bennenworth, P., & Rutten, R. (2019). Institutionalization of cross-border regional innovation systems: the role of university institutional entrepreneurs. *Regional Studies Regional Science*, 6(1), 55-69. <https://doi.org/10.1080/21681376.2018.1562367>
- Cannaos, C. and Onni, G. (2019). A methodological approach on the procedural effectiveness of eia: the case of sardinia. *City Territory and Architecture*, 6(1). <https://doi.org/10.1186/s40410-019-0100-5>
- Castelblanco, G., Guevara, J., Rojas, D., Correa, J., & Verhoest, K. (2023). Environmental impact assessment effectiveness in public-private partnerships: study on the colombian toll road program. *Journal of Management in Engineering*, 39(2). <https://doi.org/10.1061/jmenea.meeng-5015>
- Clarke, B. and Vu, C. (2021). Eia effectiveness in vietnam: key stakeholder perceptions. *Heliyon*, 7(2), e06157. <https://doi.org/10.1016/j.heliyon.2021.e06157>
- Cui, L., Gao, M., Sarkis, J., Lei, Z., & Kusi-Sarpong, S. (2020). Modeling cross-border supply chain collaboration: the case of the belt and road initiative. *International Transactions in Operational Research*, 30(3), 1187-1215. <https://doi.org/10.1111/itor.12874>
- Dühr, S. (2021). German stakeholder perspectives on the provision of cross-border public services. *Europa Xxi*, 27-46. <https://doi.org/10.7163/eu21.2021.40.6>
- Gerassis, S., Giráldez, E., Pazo, M., Saavedra, Á., & Taboada, J. (2021). Ai approaches to environmental impact assessments (eias) in the mining and metals sector using automl and bayesian modeling. *Applied Sciences*, 11(17), 7914. <https://doi.org/10.3390/app11177914>
- Gulis, G., Krishnankutty, N., Boess, E., Lyhne, I., & Kørnøv, L. (2022). Environmental impact assessment, human health and the sustainable development goals. *International Journal of Public Health*, 67. <https://doi.org/10.3389/ijph.2022.1604420>
- Gulis, G., Krishnankutty, N., Boess, E., Lyhne, I., & Kørnøv, L. (2022). Environmental impact assessment, human health and the sustainable development goals. *International Journal of Public Health*, 67. <https://doi.org/10.3389/ijph.2022.1604420>
- Herlindah, H. (2024). Nature as a legal subject in the preparation of environmental impact assessments (amdal): a green constitution perspective for social-ecological justice. *International Journal of Current Science Research and Review*, 07(03). <https://doi.org/10.47191/ijcsrr/v7-i3-37>

- Ibrahim, A., Sani, A., Gado, A., Ibrahim, M., Sulaiman, M., & Zungum, I. (2020). Environmental impact assessment in nigeria- a review. *World Journal of Advanced Research and Reviews*, 8(3), 330-336. <https://doi.org/10.30574/wjarr.2020.8.3.0487>
- Ibrahim, A., Sani, A., Gado, A., Ibrahim, M., Sulaiman, M., & Zungum, I. (2020). Environmental impact assessment in nigeria- a review. *World Journal of Advanced Research and Reviews*, 8(3), 330-336. <https://doi.org/10.30574/wjarr.2020.8.3.0487>
- Ibrahim, A., Sani, A., Gado, A., Ibrahim, M., Sulaiman, M., & Zungum, I. (2020). Environmental impact assessment in nigeria- a review. *World Journal of Advanced Research and Reviews*, 8(3), 330-336. <https://doi.org/10.30574/wjarr.2020.8.3.0487>
- Igbinenikaro, E. (2024). Developing international policy guidelines for managing cross-border insolvencies in the digital economy. *International Journal of Management & Entrepreneurship Research*, 6(4), 1034-1048. <https://doi.org/10.51594/ijmer.v6i4.983>
- Iyer, V. (2024). Importance of strategic environmental assessment (sea) process and environmental health impact assessment (ehia) process towards sustainable climate change and control. *Journal of Intelligent Computing and Mathematics*. <https://doi.org/10.55571/jicm.2024.01028>
- Iyer, V. (2024). Importance of strategic environmental assessment (sea) process and environmental health impact assessment (ehia) process towards sustainable climate change and control. *Journal of Intelligent Computing and Mathematics*. <https://doi.org/10.55571/jicm.2024.01028>
- Kabera, T. and Mutavu, G. (2022). Evaluation of the effectiveness of environmental impact assessment in east africa: the case of rwanda. *Environmental Quality Management*, 32(4), 83-91. <https://doi.org/10.1002/tqem.21943>
- Karimi, H., Neamat, S., & Galali, S. (2020). Application of mathematical matrices for environmental impact assessment, a case study of thermal power plant. *Journal of Applied Science and Technology Trends*, 1(1), 13-16. <https://doi.org/10.38094/jastt1111>
- Kataeva, N., Berezina, E., Sysolyatin, A., & Borisova, A. (2019). The assessment of the environmental impact of the construction project. *E3s Web of Conferences*, 91, 08040. <https://doi.org/10.1051/e3sconf/20199108040>
- Khmeleva, G., Kurnikova, M., Nedelka, E., & Tóth, B. (2022). Determinants of sustainable cross-border cooperation: a structural model for the hungarian context using the pls-sem methodology. *Sustainability*, 14(2), 893. <https://doi.org/10.3390/su14020893>
- Liu, K., Tsai, S., & Aswara, D. (2019). Developing indicators based on life cycle sustainability impact assessment for strategic environmental assessment. *International Journal of Environmental Science and Development*, 10(1), 34-37. <https://doi.org/10.18178/ijesd.2019.10.1.1142>
- Lotfy, R. and Ismaeel, W. (2022). Challenges for implementing environmental impact assessment method for construction projects in egypt. *Iop Conference Series Earth and Environmental Science*, 1056(1), 012028. <https://doi.org/10.1088/1755-1315/1056/1/012028>
- Madhu, K. and Pauliuk, S. (2019). Integrating life cycle assessment into the framework of environmental impact assessment for urban systems: framework and case study of masdar city, abu dhabi. *Environments*, 6(9), 105. <https://doi.org/10.3390/environments6090105>

- Matemilola, S., Adediji, O., Elegbede, I., & Kies, F. (2019). Mainstreaming climate change into the eia process in nigeria: perspectives from projects in the niger delta region. *Climate*, 7(2), 29. <https://doi.org/10.3390/cli7020029>
- Messias, E., Cateli, A., & Teixeira, D. (2022). Companies and sustainable development: the adequacy of environmental impact assessment for the management of environmental risks. *Journal of Management Science & Engineering Research*, 5(1), 17-26. <https://doi.org/10.30564/jmser.v5i1.4349>
- Munfarida, I. and Arida, V. (2023). An environmental impact assessment of restaurant operation: a case study of rm restaurant in garut, indonesia. *Iop Conference Series Earth and Environmental Science*, 1201(1), 012031. <https://doi.org/10.1088/1755-1315/1201/1/012031>
- Munsense, I. and Tsoka-Gwegweni, J. (2023). Perceived health system challenges of implementing cross-border malaria preventive measures at ports of entry in kwazulu-natal. *Annals of Global Health*, 89(1). <https://doi.org/10.5334/aogh.3992>
- Mwaka, E. and Munabi, I. (2022). Trans-border transfer of human biological materials in collaborative biobanking research: perceptions and experiences of researchers in uganda.. <https://doi.org/10.1101/2022.04.01.22273073>
- Natsiavas, P., Mazzeo, G., Faiella, G., Campegiani, P., Dumortier, J., Stan, O., ... & Romano, L. (2021). Developing an infrastructure for secure patient summary exchange in the eu context: lessons learned from the konfido project. *Health Informatics Journal*, 27(2), 146045822110214. <https://doi.org/10.1177/14604582211021459>
- Nelson, R. and Shirley, L. (2022). The latent potential of cumulative effects concepts in national and international environmental impact assessment regimes. *Transnational Environmental Law*, 12(1), 150-174. <https://doi.org/10.1017/s2047102522000243>
- Nikolić, D., Jovanović, S., Skerlić, J., Šušteršič, J., & Radulović, J. (2019). Methodology of life cycle sustainability assessment. *Proceedings on Engineering Sciences*, 1(2), 793-800. <https://doi.org/10.24874/pes01.02.084>
- Nikolić, D., Jovanović, S., Skerlić, J., Šušteršič, J., & Radulović, J. (2019). Methodology of life cycle sustainability assessment. *Proceedings on Engineering Sciences*, 1(2), 793-800. <https://doi.org/10.24874/pes01.02.084>
- Osuizugbo, I. and Nnodu, C. (2023). Barriers to environmental impact assessment implementation for construction projects in nigeria. *Built Environment Project and Asset Management*, 13(5), 719-737. <https://doi.org/10.1108/bepam-12-2022-0203>
- Saleh, N. and Qutb, S. (2021). Role of strategic environmental assessment tools (sea) to guide strategic plans in egypt: new cities case study. *Svu-International Journal of Engineering Sciences and Applications*, 2(2), 55-62. <https://doi.org/10.21608/svusrc.2021.99106.1018>
- Saleh, N. and Qutb, S. (2021). Role of strategic environmental assessment tools (sea) to guide strategic plans in egypt: new cities case study. *Svu-International Journal of Engineering Sciences and Applications*, 2(2), 55-62. <https://doi.org/10.21608/svusrc.2021.99106.1018>
- Salim, A. and Palullungan, L. (2021). The challenges of environmental law enforcement to implement sdgs in indonesia. *International Journal of Criminology and Sociology*, 10, 517-524. <https://doi.org/10.6000/1929-4409.2021.10.60>
- Sommer, A., Rehbock, C., Vos, C., Borgs, C., Chevalier, S., Doreleijers, S., ... & Krafft, T. (2022). Impacts and lessons learned of the first three covid-19 waves on

- cross-border collaboration in the field of emergency medical services and interhospital transports in the euregio-meuse-rhine: a qualitative review of expert opinions. *Frontiers in Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.841013>
- Souloutzoglou, A. and Tasopoulou, A. (2020). The methods and techniques of strategic environmental assessment. comparative evaluation of greek and international experience. *Sustainability*, 12(8), 3310. <https://doi.org/10.3390/su12083310>
- Souloutzoglou, A. and Tasopoulou, A. (2020). The methods and techniques of strategic environmental assessment. comparative evaluation of greek and international experience. *Sustainability*, 12(8), 3310. <https://doi.org/10.3390/su12083310>
- Suprpto, S. (2023). Environmental impact assessment (eia) in indonesian law: implementation and effectiveness. *Journal of Advanced Research in Social Sciences and Humanities*, 8(2). <https://doi.org/10.26500/jarssh-08-2023-0201>
- Suprpto, S. (2023). Environmental impact assessment (eia) in indonesian law: implementation and effectiveness. *Journal of Advanced Research in Social Sciences and Humanities*, 8(2). <https://doi.org/10.26500/jarssh-08-2023-0201>
- Tang, J., Wu, W., Zhao, D., & Chen, X. (2023). Evolutionary game and simulation analysis of intelligent connected vehicle industry with cross-border collaborative innovation. *Ieee Access*, 11, 17721-17730. <https://doi.org/10.1109/access.2023.3245078>
- Thamir, A., lafta, S., Mohammed, F., & Hanon, M. (2019). Environmental impact assessment of halfaya oilfield project. *Engineering and Technology Journal*, 37(2C), 258-267. <https://doi.org/10.30684/etj.37.2c.10>
- Toro, P., Formato, E., & Fierro, N. (2023). Sustainability assessments of peri-urban areas: an evaluation model for the territorialization of the sustainable development goals. *Land*, 12(7), 1415. <https://doi.org/10.3390/land12071415>
- Zhang, Z., Xia, F., Yang, D., Zhang, Y., Cai, T., & Wu, R. (2019). Comparative study of environmental assessment methods in the evaluation of resources and environmental carrying capacity—a case study in xinjiang, china. *Sustainability*, 11(17), 4666. <https://doi.org/10.3390/su11174666>
- Zuo, Z. (2024). Cross-border data forensics: challenges and strategies in the belt and road initiative digital era. *Asian Social Science*, 20(2), 49. <https://doi.org/10.5539/ass.v20n2p49>