

# Journal of Environment and Sustainability Volume 8 Number 3 (2024) 375-396

Print ISSN: 2549-1245 Online ISSN: 2549-1253 Website: https://sustinerejes.com E-mail: sustinere.jes@uinsaid.ac.id

# **REVIEW**

# The multifaceted implications and challenges of relocating Indonesia's capital city: A comprehensive review of socio-economic, environmental, urban planning, and policy considerations

Najm Al-Deen Moneer Hilal<sup>1\*</sup>, Komariah Komariah<sup>2</sup>, Ari Handono Ramelan<sup>3</sup>
<sup>1</sup>Dept. of Environmental Science, Post-Graduated Faculty, Universitas Sebelas Maret UNS, Indonesia.
<sup>2</sup>Dept. of Soil Science, Faculty of Agriculture, Sebelas Maret University, Indonesia.
<sup>3</sup>Dept. of Physics, Faculty of Sciences and Mathematics, Universitas Sebelas Maret, Surakarta, Indonesia.

Article history: Received 5 May 2024 | Accepted 23 September 2024 | Available online 30 December 2024

Abstract. Indonesia's planned relocation of its capital city from Jakarta to Nusantara in East Kalimantan represents a multifaceted and ambitious undertaking with far-reaching implications. This study conducts a comprehensive review of the socio-economic, environmental, urban planning, and policy considerations associated with this project. Through a thematic analysis of 19 relevant studies published between 2015 and 2023, the research explores the potential benefits and challenges of the relocation. The findings highlight several potential benefits, such as a more equitable distribution of national welfare, economic growth, and environmental improvement driven by the development of a forest city concept. However, the study also raisee concerns about possible negative impacts on the real estate industry in Greater Jakarta, environmental consequences such as deforestation and biodiversity loss, and the need for social and cultural adaptation among both migrating government officials and local communities. The study emphasizes the importance of adopting sustainable development practices, inclusive development strategies, and effective governance frameworks to ensure a successful and sustainable transition to the new capital city. Additionally, it identifies research gaps, particularly regarding the long-term impacts on various sectors and the effectiveness of proposed mitigation strategies. This review serves as a valuable resource for policymakers, researchers, and stakeholders involved in the IKN relocation project. It provides critical insights into the potential opportunities and challenges, emphasizing the necessity of careful planning, stakeholder engagement, and transparent implementation to achieve long-term sustainability, social equity, and equitable development.

Keywords: Jakarta; Kalimantan; Capital city; development; Ibu Kota Nusantara (IKN).

#### 1. Introduction

Indonesia is an archipelago nation consisting of 17,508 islands, comprising Papua, Sulawesi, Java, Kalimantan, and Sumatra, with a population of 273,879,750, making it the fourth most populous country in the world (BPS, 2020). The capital city, Jakarta, is located on the west-

\*Corresponding author. E-mail: <u>najmmuneer2020@gmail.com</u> DOI: https://doi.org/10.22515/sustinere.jes.v8i3.403

northern coast of Java and serves as the economic, social and political center at the both national and regional levels.

Jakarta faces a formidable challenge: land subsidence. Years of excessive groundwater extraction, the weight of towering skyscrapers, and the natural subsidence of the soft delta soil have caused this megacity to sink at an alarming rate up to 10 centimeters per year in some areas (Abidin et al., 2015). The consequences are devastating: buildings are destroyed, roads are frequently flooded, and the threat of catastrophic flooding looms constantly. As a response, the Indonesian government has made relocating the nation's capital to Kalimantan a top priority (Rifaid et al., 2023).

The establishment of Indonesia's New capital city, Ibu Kota Nusantara (IKN), in East Kalimantan province on Borneo, has sparked considerable attention due to its potential socioeconomic impacts. Various factors influence the decision to relocate the capital from Jakarta to East Kalimantan, including social, economic, political, cultural, environmental, defense, and security considerations. The proposed IKN will cover approximately a quarter of a million hectares and is designed to address challenges faced by Jakarta, such as traffic congestion, environmental degradation, vulnerability to natural disasters, economic and population concentration, and land subsidence. Furthermore, the development of IKN incorporate the concept of a forest city, which necessitates meticulous planning and thorough preparation by the Indonesian government.

The construction of IKN is guided by principles for developing a forest city and the aims to offer benefits such as alleviating environmental issues and promoting sustainability. However, establishing a forest city in IKN also presents challenges that must be effectively addressed. A key aspect of this development is the government's plan to create a smart city in IKN, leveraging technological advancements to enhance urban development, improve quality of life, and fostering sustainable development.

The relocation of the capital from Jakarta to East Kalimantan presents opportunities for regional economic and social development. It is also expected to contribute to establishing a more strategic and sustainable location for the nation's capital. Nevertheless, this project encounters significant challenges related to the relocation of the entire government and state apparatus, as well as the need for social and cultural adaptation.

In reviewing the existing literature on the potential implications, challenges, and the socioeconomic impacts of IKN development, several research gaps become evident. Firstly, there is a need for a comprehensive assessment that incorporates both market and non-market values within the Total Economic Value (TEV) framework. While some studies have examined factors such as employment, income generation, and land use, there is a lack of analysis regarding potential effects on local businesses, ecosystem services, and cultural heritage (Sumantra, 2023).

Furthermore, the relocation of the capital city presents significant challenges, including the need for social and cultural adaptation, which have not been thoroughly explored (<u>Ibrahim et al., 2023</u>). Additionally, the opportunities for regional economic and social progress and the implications for long-term sustainability require further investigation (<u>Sagena, 2023</u>). This study aims to address these research gaps by conducting a comprehensive overview of the socioeconomic impacts, implications, and challenges of IKN relocation, considering a broad range of factors and drawing on findings from previous studies.

Considering the above, the potential implications and challenges of Indonesia's new capital city development are multifaceted. The require careful consideration of various factors, such as employment generation, income generation, land use, support for local businesses, preservation of ecosystem services, and protection of cultural heritage, all of with have significant implications for decision-making and sustainability.

#### 2. Literature review

# 2.1. Historical background of East Kalimantan's development as New Capital City of Indonesia

The establishment of IKN in East Kalimantan is a monumental endeavor aimed at achieving more equitable development throughout the vast Indonesian archipelago (Inayatillah & Pamungkas, 2019; Indonesia Investments Report, 2022; Sagena, 2023). The decision to relocate the capital was formally announced during a presidential address on August 16, 2019, and subsequently confirmed by the Ministry of National Planning and Development. The selected site for the new capital spans North Penajam Paser Regency and parts of Kutai Kartanegara Regency in East Kalimantan (Ministry of National Planning and Development, BAPPENAS). This location was strategically selected for its central position within Indonesia, its proximity to key trade routes in the Makassar Strait, and its existing infrastructure, including airports, harbors, toll roads, and energy and water systems (Inayatillah & Pamungkas, 2019; Indonesia Investments Report, 2022). Additionally, it is situated near the well-developed cities of Balikpapan and Samarinda.

The relocation of the capital to Kalimantan aligns with the overarching objective of attaining more equitable development throughout Indonesia's vast expanse. This move is expected to create numerous opportunities for regions outside Java to thrive and contribute to more balanced development. In addition, relocating Indonesia's capital from Jakarta to East Kalimantan is projected to benefit the nation's economy in multiple ways.

The planned development of Indonesia's new capital city, known as IKN, will cover approximately 250 thousand hectares, including a designated Government Central Core region and National Capital area (Sagena, 2023). The projected initial population for the new capital city is 1.9 million, with plans to 4.8 million jobs by 2045 in sectors such as technology, petrochemicals, and renewable energy (Edelman, 2023).

A major consideration in relocating the capital city has been the availability of land. The proposed site spans approximately 180,000 hectares in East Kalimantan Province. However, previous industrial activities, such as palm oil plantations, logging, and mining in the designated region, present challenges related to land degradation and deforestation that must be addressed through sustainable planning (Svaban & Appiah-Opoku, 2023).

The plans include rehabilitating damaged land and forests through the use of renewable energy sources and eco-friendly transportation systems to promote sustainable development in IKN. Additionally, the government has committed to prioritizing environmental protection, social welfare, and equitable land acquisition processes as part of these efforts (Syaban & Appiah-Opoku, 2023).

Overall, the relocation process presents significant investment opportunities, particularly given that about 80% of the funding is expected to come from private investments (<u>Edelman, 2023</u>). This opens up prospects for businesses seeking expansion into Eastern Indonesia or investing in infrastructure projects, technology, education, and housing. By May 2023, Phase 1 of the development had reached 29% progress, with total budget expectations estimated at approximately USD 32.7 billion (<u>Edelman, 2023</u>).

# 2.2. Review of previous study

Indonesia's plan to relocate its capital city from Jakarta to East Kalimantan has sparked considerable debate and research. The goal of this literature review is to provide a thorough understanding of the consequences and challenges associated with this significant project. The studies examined encompass various aspects, including socio-economic impacts, environmental concerns, urban planning strategies, and policy considerations. A summary of the review is presented in Table 1.

One previous study discussed the risks and impacts of land subsidence in Jakarta and related aspects. The authors used several geodetic techniques to study land subsidence, including leveling

 Table 1. Summary of study characteristics of included studies

| Author/date                      | Research questions/hypothesis   | Methodology   | Analysis and results  | Conclusion  | Implications for future research   |
|----------------------------------|---|---|---|---|--|
| (A <u>bidin et al.,</u><br>2015) | The research aims to study<br>the risk and impacts of<br>land subsidence in Jakarta.                        | The study utilizes leveling surveys, GPS surveys, InSAR, and Geometric-Historic techniques to analyze land subsidence in Jakarta.           | Land subsidence rates vary both spatially and temporally, ranging from 3 to 10 cm/year. The risk is increased by young alluvium soil, rapid urban growth, and inadequate mitigation techniques.   | The study concludes that land subsidence in Jakarta poses infrastructural, environmental, economic, and social impacts.   | Future research should focus on sustainable urban development, improved mitigation measures, and continuous monitoring of land subsidence characteristics.                         |
| ( <u>Jauchar et al.,</u> 2022)   | The effect of IKN on Kutai<br>Kartanegara and Penajem<br>Paser Utara (PPU)<br>socioeconomic<br>development. | Descriptive qualitative research. Data collection from Central Statistics Agency (BPS) and National Development Planning Agency (BAPPENAS). | The short-term impact of IKN includes economic activity encouragement, infrastructure investment, trade between regions, and job creation opportunities. The paper emphasizes the importance of involving the local community in IKN development to strengthen the socio-cultural aspect.   | IKN has the potential to contribute to socio-economic development in PPU and Kukar, but it is crucial to ensure the involvement and protection of local communities.  | Further research can explore the long-term impact of IKN on socio-economic development, as well as the challenges and opportunities faced by the local communities in the process. |
| ( <u>Rambey et al.,</u> 2020)    | The article does not explicitly state research questions or hypotheses.                                     | The article does not provide a detailed description of the methodology used.  | The article discusses the impact of Indonesia's new capital city on the real estate industry in Greater Jakarta. It explores the problems with central planning, compares Jakarta with the new capital, provides insights from other countries' capital city relocations, and discusses the repercussions on the property market. | The article concludes that the plan to move the capital city poses more threats and challenges than opportunities for the country. It argues that cities cannot be approached as purely architectural problems and emphasizes the importance of market prices and human interactions in city development. | The article does not explicitly state implications for future research.  |

| Author/date                      | Research questions/hypothesis   | Methodology  | Analysis and results   | Conclusion  | Implications for future research  |
|----------------------------------|---|--|--|---|---|
| ( <u>Masdar et al.,</u><br>2023) | To identify potential conflicts that can arise in the new national capital region due to development and relocation. To explore the application of inclusive development as a conflict resolution approach. | - Literature review -<br>Analysis of potential<br>conflict sources and<br>the concept of<br>inclusive<br>development   | Identified potential socio-<br>economic conflicts packaged<br>in various conflict sources.<br>Proposed the application of<br>inclusive development as a<br>conflict resolution approach.   | Inclusive development can be applied by the central government to address conflicts in the new capital region.  | Further research can explore the effectiveness of inclusive development strategies in resolving conflicts.  |
| (Teo et al., 2020)               | Not explicitly stated   | The use of historical nighttime lights and land-use analyses.  | The investigation was centered on determining possible environmental effects on Borneo's natural environment and quantitatively evaluating the spatial growth footprint of earlier projected capitals. The findings showed that the new capital's footprint was expanding quickly and that there might be effects on delicate ecosystems.                                | Emphasized the need for best practices in impact assessment and sustainability.   | Further studies on impact assessment and sustainability in the context of planned capital development.  |
| (Syaban & Appiah-Opoku, 2023)    | To look into the possibilities and difficulties of moving Jakarta, the capital of Indonesia, to Kalimantan.   | A mixed-methods approach is used, which includes secondary data content analysis and information as well as interviews with important informants from governmental and non-governmental organizations. | The socioeconomic, political, and environmental effects of moving Indonesia's capital city were examined in this study. It was discovered that while air pollution and traffic congestion are problems in Jakarta, the new capital that is being planned for Kalimantan presents a more viable option with room for both ecological preservation and economic expansion. | The article comes to the conclusion that moving the capital to Kalimantan might represent progress and national identity while also providing chances for growth. | The study contributes to understanding the unique challenges of relocating a national capital in a developing country. Future research could explore in more detail the economic, social, and environmental implications of the capital relocation and monitor the progress and outcomes of the relocation project. |

| Author/date         | Research questions/hypothesis   | Methodology   | Analysis and results   | Conclusion   | Implications for future research   |
|---------------------|---|---|--|--|--|
| (Yofa et al., 2023) | The article aims to analyze the planning and implementation of the Indonesian New State Capital (IKN) and its implications for the agricultural sector.   | The article employs a policy analysis approach to examine the development of IKN and its effects on the agricultural sector.  | The article discusses the strategic plan and development of IKN, highlighting the reasons for the relocation of the national capital. It explores the impact of the capital city development on population concentration, regional economic development, and the agricultural sector. The article also formulates policy recommendations for improving agricultural plans and programs in IKN.   | The relocation of the national capital to IKN in East Kalimantan is expected to promote more even distribution of national development, particularly in the eastern region of Indonesia. The article emphasizes the importance of allocating agricultural land and protecting agricultural development in IKN. | The article suggests the need for further research to explore the long-term effects of IKN development on the agricultural sector, including the allocation and sustainability of agricultural land. Additionally, future studies could focus on assessing the implementation of agricultural plans and programs in IKN and their impact on food security and rural livelihoods. |
| (de Vries, 2021)    | To learn from experiences of capital city relocations and green city creations, with a focus on urban greening and gentrification, and generate general recommendations for Indonesia's new green capital city. | Meta-review paper applying a meta-analytical approach and connecting the 8R framework of responsible land management to assess a selected set of capital city relocations and green cities. | A comparison of a few cases showed that every one of them is deficient in one or more areas according to the 8R framework. A clear regulatory framework, extensive stakeholder input, involvement from local communities, and mixed and integrated land use planning have all been identified as essential components of building green capitals. Conundrums draw attention to how difficult it is to move the capital city and create green cities. | Because capital city relocation and green city building are complicated processes, land management, spatial planning, and governance domains must be carefully taken into account. One specific suggestion for more study is to increase the amount of boundary work conducted between these domains.          | Further research is needed to expand regulatory guidelines, assign responsibilities, and address challenges related to gentrification, social segregation, and environmental concerns in capital city development.   |

| Author/date                   | Research questions/hypothesis   | Methodology  | Analysis and results   | Conclusion   | Implications for future research   |
|-------------------------------|---|--|--|--|--|
| (Nugroho &<br>Adrianto, 2022) | The article does not explicitly state specific research questions or hypotheses.  | The article provides a descriptive analysis based on the authors' perspectives and observations. | The analysis highlights the ambitious nature of the Indonesian capital relocation project and identifies potential risks and shortcomings in its implementation. It emphasizes the need for proper planning, stakeholder involvement, and mitigation strategies.   | The article concludes that the relocation project presents both opportunities and challenges for Indonesia, and it emphasizes the importance of addressing unintended consequences and involving all stakeholders in the development process.  | The article suggests the need for a foresight exercise, increased public participation, and closer involvement of various stakeholders in the development of the new capital. It also implies the need for further research on the economic, social, and environmental impacts of the project. |
| (Kalalinggi et al., 2023)     | The study aims to describe the forecasting of the development of the New National Capital (IKN) in sustainable development. | Literature study focusing on media and reports.  | The report lists the anticipated growth areas for IKN, which include green building, smart grid, and smart transportation. It highlights how crucial it is to uphold the values of gender equality, fairness, and participation for sustainable development. Drawing from results in the media, the report also outlines a number of problems for the future development of IKN. | The IKN development must consider the principles of justice, participation, and gender equality. Proper integration, land grading, and coordination of underground infrastructure are crucial. Additionally, the accessibility of future expansion and attention to economic, social, and ecological impacts are essential for sustainable development. Economic interests alone should not drive development. | Further research can explore specific strategies and policies to address the challenges identified in the study. Additionally, studies can investigate the longterm impacts of IKN development on the economic, social, and ecological aspects of sustainable development.                     |

| Author/date            | Research questions/hypothesis   | Methodology   | Analysis and results  | Conclusion   | Implications for future research  |
|------------------------|---|---|---|--|---|
| (Rifaid et al., 2023)  | What is the government's strategy for getting the new capital city ready for the growth of smart cities? What potential does the new capital city have for the development of smart cities?                   | Qualitative approach with a focus on thematic analysis. | Thematic analysis of official government documents using Nvivo 12 Plus.   | In the future capital city, the Indonesian government has set aside particular funds for six smart city support systems: urban systems, government services, livability and urban life, safety and security, environment and sustainability, and access and mobility. Infrastructure, financial capacity, human resources, and bureaucratic adaption patterns in government are among the challenges. A smart governance framework is suggested to deal with these issues. | Further research can explore the challenges, potential development, and complexities of smart cities in the new capital city. Additionally, future studies can focus on the implementation and effectiveness of the proposed smart governance system. |
| (Ibrahim et al., 2023) | What are the principles for developing a forest city in the new capital city (IKN)?  What are the advantages of developing a forest city in IKN?  What are the challenges of developing a forest city in IKN? | Qualitative approach with thematic analysis.            | Examined official government documents related to the development of a forest city in IKN.         Identified principles for forest city development.         Explored the advantages and challenges of developing a forest city in IKN. Analyzed the government's readiness and capacity for forest city development in IKN. | Forest city development in IKN is based on principles of conservation, low carbon, and community involvement. The government considered economic, social, and environmental benefits. Careful planning and strong regulations are necessary to mitigate negative impacts.  | Provides insights and lessons for future studies on forest city development. Highlights the challenges and considerations for sustainable development in IKN.   |

| Author/date                       | Research questions/hypothesis   | Methodology   | Analysis and results  | Conclusion  | Implications for future research   |
|-----------------------------------|---|---|---|---|--|
| (Edelman, 2023)                   | What are the investment opportunities and challenges in Indonesia's new capital city?                                       | The article provides an analysis based on the government's plans, policies, and regulations for the development of the new capital city. It also discusses the incentives and benefits for investors and the progress of the project. | The analysis highlights the potential investment opportunities in various sectors such as infrastructure, technology, education, and housing. It mentions the progress of the development stages and the government's efforts to attract investors. | The article concludes that Indonesia's new capital city project presents significant investment opportunities, especially in Eastern Indonesia. It emphasizes the government's commitment to providing incentives and an attractive investment environment. | Future research could explore the economic, social, and environmental impacts of the new capital city development.  Additionally, studying the effectiveness of the government's policies and incentives in attracting investments would be valuable. Understanding the long-term sustainability and success of the project could also be a subject of further research. |
| (Muzady &<br>Berawi, 2023)        | To develop planning model based on sustainable smart city conceptual design for the development of Indonesia's New Capital. | Literature study,<br>case study, and<br>benchmarking<br>methods   | The conceptual design is developed with urban planning knowledge based on the result of site analysis and case study from other country city's development, which are later validated by experts.   | The research aims to develop a conceptual design that shows spatial and usage form with the application of sustainable smart city concept for the construction of Indonesia's new capital.  | Further research can explore the implementation of the developed conceptual design and assess its effectiveness in achieving sustainability goals.   |
| ( <u>Sumantra</u> , <u>2023</u> ) | What are the sustainability<br>and growth dilemmas in<br>Indonesia's new capital<br>city?                                   | Literature review,<br>analysis of<br>government<br>decisions and plans  | The analysis examines the background of the decision, urban problems faced, rationale for relocation, impacts and challenges, and resilience strategy.  | Relocating the capital to a new city in East Kalimantan is a form of resilience to Jakarta's problems.  | Future research can focus on evaluating the actual implementation and impact of the new capital city, as well as assessing its long-term sustainability and growth.  |

| Author/date             | Research questions/hypothesis  | Methodology  | Analysis and results  | Conclusion  | Implications for future research   |
|-------------------------|--|--|---|---|--|
| (Azmy, 2021)            | The research attempts to review how the state positions itself in the relocation plan of the capital city of Indonesia and explores the implications of the relocation on economic development. The specific research questions or hypotheses are not explicitly stated in the provided content.   | The methodology used in the research is described as a literature study. It implies that the author conducted a review of existing literature and sources concerning the subject of moving Indonesia's capital city. | The content provided does not include specific details about the analysis conducted or the results obtained by the author.  | The conclusion of the research is that the state exercises its autonomy in the plan to move the capital city, and the government remains focused on the relocation plans despite disagreement from some people. The government also ensures that the implications of the capital relocation plan are positive for economic development in Indonesia. The conclusion also suggests that the distribution of economic equality will occur in Indonesia. | The content does not mention specific implications for future research.  |
| (Baniargi et al., 2022) | The research formulates the following questions: What are the pros and cons of the polemic of moving the country's capital city in the era of the COVID-19 pandemic? What are the factors supporting the relocation of the national capital to the archipelago? What are the inhibiting factors for moving the country's capital to the archipelago? | The research uses a descriptive qualitative approach. Data sources are in the form of secondary data. Data collection is done through information collection from journals and books.                                | The research analyzes the arguments for and against moving the capital city. The pros argue for immediate relocation, considering Jakarta's unsuitability as the capital and the need for equity in Indonesia. The cons consider environmental aspects and prioritize addressing the COVID-19 pandemic. The research does not provide specific results. | The research concludes that the government should carefully consider the policy of moving the country's capital city, taking into account the ongoing COVID-19 pandemic.  | The research contributes to the study of moving the country's capital city and can serve as input for government policymaking. It also provides information for public awareness and understanding of the issue. Future research can delve deeper into the implications and challenges of relocating the capital city. |

| Author/date            | Research questions/hypothesis  | Methodology  | Analysis and results   | Conclusion   | Implications for future research   |
|------------------------|--|--|--|--|--|
| (Fitrianggraeni, 2023) | The article aims to explore the challenges and implications of reconciling investments in Indonesia's new capital city with environmental, social, and governance (ESG) principles, particularly in relation to indigenous people and land disputes. | The article does not explicitly mention the methodology used. However, it provides information on the development of Indonesia's new capital city, the concept of a green and sustainable city, and the application of ESG principles in the project.              | The article discusses the potential issues and risks associated with the construction of the new capital city, particularly regarding indigenous people and land disputes. It highlights the importance of engaging in dialogue with indigenous communities and ensuring their rights and consent.   | The article concludes that attention should be given to the land rights of indigenous people in the construction of Indonesia's new capital city. It emphasizes the need for twoway dialogue, free, prior, and informed consent, and the protection of indigenous people's rights through legislation.           | The article does not explicitly mention implications for future research. However, it suggests the need for further exploration and legislation regarding indigenous people's rights, dispute resolution mechanisms, and the impact of the new capital city on biodiversity. |
| (Sagena, 2023)         | The document does not explicitly mention specific research questions or hypotheses. However, it discusses the reasons for relocating the Indonesian capital and explores the potential benefits and challenges associated with the relocation.       | The document does not provide information about the specific methodology used in the research. It primarily presents an analysis and discussion of the factors driving the decision to relocate the capital city and the potential consequences of the relocation. | The document analyzes various factors for moving the Indonesian capital city from Jakarta to East Kalimantan. It examines social, economic, political, cultural, defense, and security factors, as well as the potential for natural disasters. The analysis highlights the need for equitable development, reducing environmental burdens, and achieving sustainable development. | The conclusion of the article emphasizes the potential benefits of relocating the capital city, such as reducing economic disparities, improving infrastructure, and promoting regional and international competitiveness. It also mentions the potential positive impact on the national economy and inflation. | The document does not explicitly discuss implications for future research. However, it serves as an introductory forum for debate and discussion about the concept of a new capital city and the challenges and opportunities associated with the relocation.                |

surveys, GPS surveys, InSAR and Geometric-Historic techniques. The results from these techniques show that land subsidence in Jakarta exhibits spatial and temporal variations, with typical rates of about 3–10 cm/year. The paper also discusses the impacts of land subsidence in Jakarta, which can be categorized into infrastructural, environmental, economic, and social impacts (Abidin et al., 2015).

Other studies discuss the implications and challenges of IKN relocation. Firstly, some studies have suggested that the relocation of the capital city has significant socio-economic implications. For instance, studies such as that by Jauchar et al. (2022) explore the potential for equitable distribution of national welfare and economic growth. They emphasize the importance of involving local communities in the IKN project to strengthen the socio-cultural aspect. However, concerns have been raised regarding the potential negative impacts on the real estate industry in Greater Jakarta. These study discuss issues with central planning and highlight the potential negative repercussions on the property market, including speculative bubbles and increase transaction costs, as highlighted by Rambey et al. (2020). Additionally, the study by Masdar et al. (2023) explores conflict resolution efforts through the implementation of inclusive development in the new National Capital Region (NCR) of Indonesia. The study identifies potential socioeconomic conflicts and proposes an inclusive development approach that considers social structure, culture, and social processes as key components.

Secondly, the environmental impact of the IKN relocation is a major concern. Teo et al. (2020) examine the potential environmental consequences of the new capital in East Kalimantan, highlighting the importance of impact assessment and sustainability practices. Additionally, Syaban and Appiah-Opoku (2023) explore the potential benefits and challenges of moving Indonesia's capital from Jakarta to Kalimantan, Given that Jakarta, home to more than ten million people, struggles with environmental problems such air pollution and traffic congestion, it is determined that Kalimantan is a more viable option with room for both ecological preservation and future economic expansion. Furthermore, Yofa et al. (2023) analyze the planning and implementation of capital city development and its implications for the agricultural sector. The study highlights the importance of allocating agricultural land as a fundamental infrastructure for agricultural development and recommends complementing the IKN development toward sustainable food agricultural land and rice field programs. Meanshile, de Vries (2021) examines the experiences of capital city relocations and the creation of green cities worldwide in order to provide insights and recommendations for Indonesia's proposed new green capital city. Additionally, an article by Nugroho and Adrianto (2022), highlights the importance of responsible land management, mixed and integrated land use planning, a transparent regulatory framework for land use control, extensive consultation with local, national, and international stakeholders, and participation from local residents.

Thirdly, several studies focus on the unique urban planning challenges and design considerations involved in developing the new capital city. Kalalinggi et al. (2023) provide insights into forecasting the development of IKN, with a focus on sustainable development. They uphold the values of justice, participation, and gender equality while emphasizing the necessity of smart grids, smart transportation, and green buildings. Rifaid et al. (2023) explore the Indonesian government's plans for developing a smart city in the new capital, highlighting the challenges of human resources, budget capacity, and infrastructure. Ibrahim et al. (2023) examines the Indonesian government's plans to create a forest city in the new capital. The study utilizes a qualitative approach and analyzes official government documents through thematic analysis. The findings reveal that the development plan for the forest city is based on principles such as conservation of natural resources and wildlife habitats, connectivity with nature, low-carbon development, water resource development, controlled development, and community involvement. Edelman (2023) provides insights for academic researchers studying capital city relocations, economic development, and investment opportunities in Indonesia. Additionally,

Muzady and Berawi (2023) propose a conceptual design for a smart sustainable city, integrating technology and sustainable approaches. The article by Sumantra (2023) explores the decision to build a new capital city in Indonesia as a response to Jakarta's urbanization problems. The article highlights the selected regions in East Kalimantan as potential candidates for the new capital city and emphasizes the government's commitment to creating a sustainable and technologically advanced city.

Finally, the IKN relocation involves complex policy and governance considerations. Azmy (2021) examines the government's decision to relocate the capital city from a political economy perspective, highlighting the state's autonomy and the implications for economic development. (Baniargi et al., 2022) examine the benefits and drawbacks of the capital movement strategy in light of the COVID-19 epidemic, stressing the importance of giving it serious thought. Fitrianggraeni (2023) explores the challenges and potential solutions related to the development of Indonesia's new capital city, focusing on reconciling investments with environmental, social, and governance (ESG) principles. They propose engaging in a two-way dialogue with indigenous representatives, ensuring Free, Prior, and Informed Consent (FPIC), and enacting legislation that recognizes and protects indigenous rights. Additionally, an article by Sagena (2023) discusses the plan to move Jakarta, the capital of Indonesia, to East Kalimantan, highlighting the reasons behind the decision and the potential consequences of the transfer.

Having considered all of the above, the relocation of Indonesia's capital city to East Kalimantan is a multifaceted endeavor with far-reaching implications. The studies reviewed provide insights into the socio-economic, environmental, urban planning, and policy challenges associated with this undertaking. To guarantee a successful and sustainable transition to the new capital city, researchers and policymakers must carefully consider these factors. Further research is needed to address specific issues and develop comprehensive strategies for the successful implementation of the IKN relocation project.

#### 3. Methods

A comprehensive literature review was conducted to identify relevant studies on the socio-economic, environmental, and urban planning implications of the relocation of Indonesia's capital city to IKN. The following databases were searched: Google Scholar, JSTOR, ScienceDirect, Scopus, and Web of Science. The search terms used included "Indonesia," "new capital city," "IKN," "relocation," "socio-economic," "environmental," "urban planning," and "policy." The search was limited to studies published in English between 2015 and 2023.

A total of 19 studies met the inclusion criteria and were analyzed using a thematic analysis approach. The following themes emerged from the analysis: socio-economic impacts, environmental impacts, urban planning challenges, and policy considerations. These themes provide a comprehensive understanding of the various dimensions of the IKN relocation and its potential implications for Indonesia's development.

This review focuses on contemporary studies and research carried out by scientists from various Indonesian institutes and universities. The study was limited to data available from widely accessible sources, including books, journals, and scholarly databases. Researchers addressing the various themes and challenges associated with the relocation of Indonesia capital city from Jakarta to East Kalimantan have employed outstanding studies and newly published journals to select those relevant to the socio-economic impacts of IKN development. They have particularly focused on how their studies contribute to social progress in the region and the achievement of long-term sustainability.

The studies examine various aspects related to the relocation of Indonesia's capital city, exploring its implications for socio-economic development, land subsidence, environmental impacts, sustainability, and the real estate industry. These investigations assess the potential benefits, challenges, and risks of the relocation, considering factors such as socio-economic implications, environmental considerations, urban planning and design, and policy and

governance. Overall, the studies provide insights into the multifaceted nature of the capital city relocation project and its potential impact on different aspects of Indonesian society.

Based on the researchers' topic and factors, a total of 19 studies have been analyzed. For those interested in reading further, <u>Table 2</u> and the list of references provide information on the 19 studies. These studies are either ongoing research from 2020 onward or published results (books, journal articles). These sections provide a brief overview of the 19 significant studies and the implication of the relocation IKN.

#### 4. Result and discussion

The nineteen studies, which cover a vast range of topics, are organized according to their intended audience or primary areas of interest. There are five main factors, and the data in <a href="Table3">Table3</a> displays the distribution of various studies for each key factor. One study, titled "The Risk and Impacts of Land Subsidence in Jakarta," examines the effects of land subsidence on infrastructure, the environment, the economy, and society. Additionally, three studies are categorized as under "Socio-Economic Implications," five studies are categorized under "Environmental Considerations," six studies are categorized under "Urban Planning and Design," and four studies are categorized under "Policy and Governance". It is also noted that several studies have received some attention in multiple areas and, as a result, fall into more than one category. When displaying and interpreting the research topics, only the primary focus of each study is considered for categorizing.

This overview encompasses 19 studies. One of them represents on the main causative factors, the risk, and impacts of land subsidence in the current capital Jakarta. The other studies address the ramifications and challenges of IKN relocation. The studies are categorized into five primary factors: socio-dconomic implications, environmental considerations, urban planning and design, and policy and governance.

**Table 2**. Separation of the nineteen studies according to their principal investigators

| The risk and impacts of land subsidence in Jakarta | Socio-economic implications     | Environmental<br>considerations   | Urban planning and<br>design    | Policy and governance   |
|--|---------------------------------|-----------------------------------|---------------------------------|-------------------------|
| ( <u>Abidin et al.,</u><br>2015)                   | ( <u>Jauchar et al., 2022</u> ) | ( <u>Teo et al., 2020</u> )       | (Kalalinggi et al., 2023)       | (Azmy, 2021)            |
|  | (Rambey et al., 2020)           | (Syaban & Appiah-<br>Opoku, 2023) | (Rifaid et al., 2023)           | (Baniargi et al., 2022) |
|  | ( <u>Masdar et al., 2023</u> )  | (Yofa et al., 2023)               | ( <u>Ibrahim et al., 2023</u> ) | (Fitrianggraeni, 2023)  |
|  |                                 | ( <u>de Vries, 2021</u> )         | (Edelman, 2023)                 | ( <u>Sagena, 2023</u> ) |
|  |                                 | (Nugroho & Adrianto, 2022)        | (Muzady & Berawi, 2023)         |                         |
|  |                                 |                                   | ( <u>Sumantra, 2023</u> )       |                         |

**Table 3.** Study groups based on majors

| The risk and<br>impacts of land<br>subsidence in<br>Jakarta | Socio-economic implications | Environmental considerations | Urban planning<br>and design | Policy and governance |
|---|-----------------------------|------------------------------|------------------------------|-----------------------|
| 1   | 3                           | 5                            | 6                            | 4                     |

#### 4.1. Socio-economic implications

Three studies in total have used methods to address a research issue related to the socioeconomic implications of the IKN relocation. These studies highlight the potential for equitable distribution of national welfare and economic growth. However, concerns have been raised regarding the potential negative impacts on the real estate industry in Greater Jakarta. Additionally, the relocation presents opportunities for social and cultural adaptation, as well as conflict resolution through inclusive development.

In the context of socio-economic implications, these three articles shed light on various aspects of the planned relocation of Indonesia's capital city from Jakarta to East Kalimantan. The first article examines how the New Capital City project has affected the socio-economic growth of Kutai Kartanegara and Penajem Paser Utara. It highlights the potential short-term benefits such as infrastructure investment, regional trade, and job creation, but also emphasizes the importance of considering the socio-cultural aspects and involving local communities in the project (Jauchar et al., 2022). The second article critically analyzes the relocation plan and its potential consequences on the real estate industry in Greater Jakarta. It highlights challenges related to central planning, property market dynamics, and urban development. The authors express scepticism about the feasibility of the project and suggest alternative policy measures to address existing issues (Rambey et al., 2020). Lastly, the third article focuses on conflict resolution efforts in the new National Capital Region, acknowledging potential conflicts between migrants and local communities. It proposes an inclusive development approach that considers social structure, culture, and social processes for effective conflict resolution and emphasizes the need for a paradigm shift towards inclusive development (Masdar et al., 2023). Collectively, these articles provide valuable insights for policymakers and researchers in understanding the socio-economic implications of the capital city relocation and emphasize the importance of considering both economic development and social aspects for sustainable urban development and national resilience.

In the end, there are significant socioeconomic consequences associated with East Kalimantan becoming the capital of Indonesia. With its new location, Jakarta's air pollution, sinking ground levels, and traffic congestion will all be addressed. Furthermore, the construction of a new capital city aims to reshaping the nation's economic framework and incorporates a tricity model with pivotal economic sectors. This initiative aspires to emerge as one of Southeast Asia's premier urban hubs by 2045. The government is allocating resources to infrastructure projects such as high-speed railways, mass transit systems, and a modern international airport to stimulate economic expansion and enhance connectivity within the region. Additionally, there are blueprints for establishing a forest city within the new capital, which is projected to generate employment opportunities, reduce energy expenses, increase property values, attract visitors, and reduce disaster management expenditures. Nevertheless, potential hurdles exist concerning environmental impacts, such as deforestation, loss of biodiversity, and soil degradation due to land clearance for the new capital city. These implications must be carefully managed through sustainable development measures that consider economic growth while balancing social, economic and environmental objectives.

#### 4.2. Environmental considerations

The environmental impact of the IKN relocation is a major concern. Studies emphasize the need for impact assessment and sustainability practices to mitigate potential consequences for ecosystems and biodiversity. The development of a forest city in the new capital aims to address environmental issues and promote sustainability.

In the realm of environmental considerations regarding Indonesia's planned new capital, five articles provide valuable insights and academic discussion. The first article examines the potential environmental impacts of the new capital in East Kalimantan, emphasizing the expansion of its footprint and the associated threats to sensitive ecosystems and greenhouse gas emissions. It

underscores the importance of impact assessment and sustainability practices for environmental protection (<u>Teo et al., 2020</u>). The second article explores the prospects and challenges of relocating the capital, highlighting Jakarta's environmental issues and suggesting that with potential for both ecological preservation and economic progress, Kalimantan presents a more viable option (<u>Syaban & Appiah-Opoku, 2023</u>).

The third article focuses on the implications for the agricultural sector, emphasizing the need to allocate agricultural land and develop sustainable food programs (Yofa et al., 2023). The fourth article takes a meta-review approach, drawing insights from global experiences of capital city relocations and green city creation to offer recommendations for Indonesia's proposed green capital, emphasizing integrated land use planning and stakeholder consultation (de Vries, 2021). Lastly, the fifth article analyzes the prospects and challenges of the relocation project, discussing the opportunities for economic growth and equitable development while addressing concerns such as detailed planning, environmental impact studies, and economic modelling (Nugroho & Adrianto, 2022). Collectively, these articles underscore the significance of environmental impact assessment, sustainability practices, integrated planning, and stakeholder involvement in ensuring the successful development of a new capital city that fosters ecological preservation and inclusive growth.

Therefore, Indonesia's plan to establish a new capital city in Kalimantan brings both environmental advantages and challenges. While the construction of a forest city within the new capital could positively impact the environment by addressing climate change, preserving biodiversity, and reducing air pollution, it also presents potential challenges. The surrounding region already faces environmental issues like air and water pollution, which could worsen with the construction. Deforestation for infrastructure development can lead to biodiversity loss and soil degradation, exacerbating climate change. In the new capital city, the government has pledged to rehabilitate degraded land and forests, adopt eco-friendly transportation, and encourage the use of renewable energy sources. Plans to establish 1.2 million hectares of new forests in the vicinity show a serious dedication to tackling possible environmental issues. It is crucial for the development of the new capital to align with sustainable development goals by integrating sustainable principles into every aspect of planning and execution. By prioritizing practices such as forest preservation, biodiversity conservation, and eco-friendly infrastructure, Indonesia can create a new capital city that meets present needs while ensuring a harmonious balance with nature for future generations.

# 4.3. Urban planning and design

The development of the new capital city presents unique urban planning challenges. Six studies propose smart transportation, smart grid, and green building concepts to ensure sustainable development. The integration of technology and sustainable approaches is crucial for creating a smart sustainable city.

In the context of urban planning and design for Indonesia's new capital city, these six articles contribute to academic discussions and provide valuable insights. The first article forecasts how the new capital will evolve, highlighting the necessity of sustainable practices and considering the effects on the economy, society, and environment (Kalalinggi et al., 2023). The second article explores the government's plans for developing a smart city in the new capital, identifying key support systems and highlighting challenges related to human resources, budget capacity, and infrastructure (Rifaid et al., 2023). The third article examines the government's plans for creating a forest city in the new capital, emphasizing principles such as conservation, connectivity with nature, and community involvement, while addressing potential negative aspects (Ibrahim et al., 2023). The fourth article discusses investment opportunities and challenges in the new capital, emphasizing the government's efforts to attract companies, the importance of investment clarity, and stable investment climate (Edelman, 2023). The fifth article emphasizes the need for comprehensive planning and integration of smart city concepts in the new capital's development,

highlighting the importance of sustainable approaches and technology integration (Muzady & Berawi, 2023). Lastly, the sixth article explores the decision to build the new capital in response to Jakarta's urbanization problems, discussing the background, challenges, and government commitment to creating a sustainable city (Sumantra, 2023). These articles collectively provide a comprehensive understanding of various aspects related to urban planning and design in the context of Indonesia's new capital city, offering insights into sustainable development, smart cities, investment opportunities, and resilience strategies.

On the whole, IKN relocation project prioritizes the development of a forest city, aiming to promote eco-friendly lifestyles, reduce non-communicable diseases, and encourage sustainable consumption and energy use. Access to green open spaces and forests positively impacts mental well-being and helps address climate change, enhance biodiversity, reduce air pollution, and preserve water quality. The guiding principles for establishing a forest city in IKN focus on conserving natural resources, pursuing low-carbon development, and involving the community in the process.

The government's roadmap for IKN's development includes building key infrastructure and housing before expanding into economic centers and achieving Sustainable Development Goals (SDGs). Integrated planning practices are essential to address multidimensional challenges maintaining environmental well-being while attracting investment and population migration. This demands inclusive collaboration and enhancing institutional capacity. It is crucial to anticipate unintended consequences through research and the proactive use of appropriate planning tools during this transformative project.

# 4.4. Policy and governance

The IKN relocation involves complex policy and governance considerations. Four studies examine the government's decision to relocate the capital city from a political economy perspective, highlighting the challenges and opportunities associated with this policy. Aligning investments with environmental, social, and governance (ESG) principles is also a critical aspect of the relocation process.

In the realm of policy and governance surrounding the relocation of Indonesia's capital city, these four articles contribute significantly to academic discussions and provide valuable insights. The first article explores the government's decision to relocate the capital city from Jakarta to Kalimantan, emphasizing the state's perspective and its aim to achieve economic development and prompting equitable economic distribution (Azmy, 2021). The second article analyzes the pros and cons of the relocation policy, with proponents highlighting the need to address inequity and opponents raising concerns about environmental impacts and challenges posed by the COVID-19 pandemic (Baniargi et al., 2022). The third article focuses on aligning investments with ESG principles in developing the new capital city, emphasizing the importance of protecting indigenous rights, and engaging in dialogue with indigenous communities (Fitrianggraeni, 2023). The fourth article discusses the reasons behind the relocation policy and the potential positive impacts, including addressing population density, reducing economic inequality, tackling environmental challenges, promoting national identity, and enhancing regional connectivity (Sagena, 2023).

Collectively, these articles shed light on comprehensive overview of the policy and governance aspect of the relocation of Indonesia's capital relocation. They offer insights into the state's perspective, the pros and cons of the policy, the critical role of ESG principles and indigenous rights, and the potential socio-economic benefits of this significant initiative.

In summary, the establishment of IKN requires a comprehensive framework of policies and governance measures. Law 3/2022 has been enacted to create a strategic center in Central Indonesia, supported by implementation regulations covering business permits, land acquisition, and government-business partnerships. Integrating environmental, social, and governance (ESG)

principles are crucial for attracting investors while ensuring environmentally friendly practices, effective social management, and good governance.

The Ministry of National Planning and Development is expected to formulate an economic plan emphasizing employment opportunities, sustainable practices, and high value-added industries. A robust digital ecosystem will streamline urban processes, enhance citizen engagement with their representatives, address pollution control, and ensure public safety. Sustainable development effort will include restoring degraded land and forests, implementing eco-friendly transportation systems, and adopting renewable energy sources.

The plan also addresses transparent processes for private land acquisition and the planting of 1.2 million hectares of new forests to address land availability. These policy measures are vital for addressing socio-economic implications, environmental considerations, urban planning challenges, and establishing effective governance frameworks for the relocation of Indonesia's new capital city.

# 4.5. Overall findings

The relocation of Indonesia's capital city to East Kalimantan is a multifaceted endeavor with far-reaching implications. The reviewed studies offer valuable insights into the socio-economic, environmental, urban planning, and policy challenges associated with this undertaking. Researchers and policymakers must carefully address these aspects to ensure a sustainable and successful transition to the new capital. Further research is essential to address specific issues and develop comprehensive strategies for the effective implementation of the IKN relocation project.

#### 4.6. Future research directions

The development of Indonesia's new capital city presents a multifaceted endeavor with significant implications and challenges. Future research should focus on ensuring the project's long-term sustainability, promoting social equity, establishing effective governance, and achieving economic viability.

*Sustainability.* Researchers should explore sustainable strategies for the city's design and construction, aiming to minimize environmental impact and promoting economic and social resilience.

*Social Equity.* Studies should assess the potential social impacts on various groups, identifying mitigation strategies and policies to ensure equitable distribution of benefits.

*Governance.* Investigations into different governance models can help identify the most effective approach for efficient management and responsiveness to residents' needs.

*Economic development.* Research should assess the potential economic benefits and costs, developing strategies to maximize growth while ensuring equitable benefit distribution.

By addressing these key areas, researchers can contribute to a successful and sustainable transition to the new capital city, ensuring its long-term prosperity and well-being for all residents.

#### 5. Conclusion

# 5.1. Summary of findings from each category

The transfer of Indonesia's capital city to East Kalimantan represents a monumental undertaking with immense potential for the nation's future. This move is not just about administrative reorganization but an opportunity to reshape Indonesia's narrative on the global platform. The project's aim is to address Jakarta's environmental issues, promote inclusivity, and

foster sustainability. It also offers profitable prospects, particularly for the private sector, which can support the government's goals through strategic investments in infrastructure and real estate.

However, this ambitious initiative comes with significant challenges. Jakarta will remain a cultural and economic powerhouse, and its resilience is crucial given its environmental vulnerabilities. To ensure the success of this endeavor, the government must prioritize transparency and engage in comprehensive consultations with affected communities. Additionally, prioritizing public welfare over the interest of a select few is vital steps in guaranteeing the project's triumph.

Moreover, building a new capital city will have significant ramifications for the distribution of national welfare. Development in Indonesia has predominantly been concentrated on Java and Sumatra, often neglecting other regions. The relocation to East Kalimantan presents an opportunity to promote economic growth and ensure a more equitable distribution of national welfare in underdeveloped areas. However, potential conflicts may emerge due to social, economic, cultural, and political factors. To address these challenges, inclusive development strategies must be adopted, ensuring that all segments of society are actively involved in the development process.

# 5.2. Implications for the new capital city relocation project

The relocation of Indonesia's capital to East Kalimantan carries significant socio-economic implications, including potential economic growth and ecological conservation. The new capital is envisioned as a symbol of national progress and an economic driver, with the potential to create thousands of construction jobs and increase the regional economy by four to five times.

However, critical environmental considerations – such as preventing flood disasters, coordinating infrastructure development, and resolving land disputes with indigenous communities - must be addressed. Implementing sustainable development strategies that balance economic growth with ecological preservation is essential for the project's success (de Vries, 2021; Kalalinggi et al., 2023; Syaban & Appiah-Opoku, 2023; Sagena, 2023; Edelman, 2023).

# 6. Recommendations

#### 6.1. Actions to address socio-economic implications

To address the socio-economic implications of the relocating Indonesia's capital city, it is essential to consider both the potential benefits and challenges of this ambitious project. The capital's relocation offers an opportunity to stimulate economic growth, create new industrial opportunities, and stimulate the nation's economy. It is expected to contribute significantly to Indonesia's GDP target and generate millions of job opportunities by 2045.

Furthermore, the new capital city holds promise of fostering equitable development and serving as a hub for economic growth beyond Java, promoting a more balanced distribution of economic activities across Indonesia.

Nevertheless, obstacles must be addressed to fully realize these benefits. The development process must adhere to principles of justice, participation, and gender equality to ensure sustainable and equitable outcomes. Integration based on current topographic and geological conditions, along with the coordination of underground infrastructure, will be essential to prevent challenges such as flooding disasters.

Additionally, inclusive development approaches are essential for addressing potential conflicts between migrants and local residents in the new capital region. These conflicts, which arise from social, economic, cultural, and political aspects, may impact Indonesia's national resilience as it prepares for the future of the new capital city.

To effectively address these socio-economic implications, it is imperative for the government to prioritize sustainable development practices. This includes ensuring adequate infrastructure development, promoting equitable opportunities for all regions of Indonesia, committing to

gender equality in urban planning and governance measures, and actively involving all levels of society in the development process through an inclusive approach (<u>Kalalinggi et al., 2023</u>; <u>Nugroho & Adrianto, 2022</u>; <u>Masdar et al., 2023</u>).

# 6.2. Strategies for addressing environmental considerations

Indonesia's new capital city relocation project must prioritize environmental factors to ensure long-term sustainability. While the project aims to address the environmental challenges faced by Jakarta, potential environmental issues in Kalimantan, such as land clearing and infrastructure development, must be carefully considered. Deforestation and biodiversity loss are significant concerns, requiring detailed planning to minimize negative impacts.

Sustainable infrastructure development, eco-friendly transportation initiatives, and modernizing transportation infrastructure through technology deployment are crucial components. Innovative financing solutions, such as public-private partnerships and green bonds, are necessary to bridge funding gaps. Collaboration among stakeholders is essential for creating effective mobility solutions, and policies regulating forest management should be adopted to minimize negative impacts on forest ecosystems. Overall, the project requires careful planning and the implementation of sustainable infrastructure initiatives to address environmental considerations. See (Sagena, 2023; Syaban & Appiah-Opoku, 2023; Teo et al., 2020).

# 6.3. Recommendations for urban planning and design

The relocation of Indonesia's new capital city presents an opportunity to reimagine urban planning and design to ensure the city's sustainability and livability. As cities grow, it is important to consider factors that drive innovation and productivity to create a livable, sustainable, and innovative city. Urban planning and design are essential for influencing social and economic outcomes, promoting social cohesion, reducing inequality, and increasing economic opportunities.

Involving the community in the planning and development process is essential to addressing residents' needs and aspirations. This includes designing buildings and public spaces that encourage social interaction and integrating sustainable urban planning practices. Incorporating smart city concepts, in alignment with the city's master plan, is also vital. The goal is to offer the highest quality of urban life by investing in human capital, social, and environmental aspects for sustainable development. Ultimately, the aim is to create a modern, sustainable, and inclusive urban environment through innovative planning and design strategies. See (Sumantra, 2023; Kalalinggi et al., 2023; Syaban & Appiah-Opoku, 2023; Teo et al., 2020).

#### 6.4. Policies and governance measures to be implemented

Indonesia's new capital city project in Kalimantan relies on effective policies and governance. It aims to create a digital ecosystem for residents, but faces challenges related to technology scalability and data security. Infrastructure funding will be sourced from public-private partnerships and green bonds. Social concerns regarding land tenure and local communities' rights are being addressed transparently.

Environmental impacts must be carefully assessed, especially concerning delicate ecosystems like mangroves and peatlands. The government must prioritize ESG principles, including environmentally friendly practices, social management, and the involvement of indigenous communities in decision-making processes. Implementation of these measures should be transparent, accountable, inclusive of local communities, and prioritize environmental sustainability (Syaban & Appiah-Opoku, 2023; Fitrianggraeni, 2023; Teo et al., 2020).

#### References

Abidin, H. Z., Andreas, H., Gumilar, I., & Brinkman, J. J. (2015). Study on the risk and impacts of land subsidence in Jakarta. *Proceedings of the International Association of Hydrological Sciences*, *372*, 115–120. <a href="https://doi.org/10.5194/piahs-372-115-2015">https://doi.org/10.5194/piahs-372-115-2015</a>

Azmy, A. S. (2021). Examining the Relocation of the Capital City of Indonesia Through the State Perspective

- in Political Economy. *Polit Journal: Scientific Journal of Politics*, 1(1), 26–35. <a href="https://doi.org/10.33258/polit.v1i1.365">https://doi.org/10.33258/polit.v1i1.365</a>
- Baniargi, A. Nugroho, Larasati, E., & Yuniningsih, T. (2022). Pro-Cons Analysis of the Policy of Indonesian Capital Movement Policy in The Era of The Covid-19 Pandemic. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, 5(3), 27400–27408. <a href="https://doi.org/10.33258/birci.v5i3.6793">https://doi.org/10.33258/birci.v5i3.6793</a>
- BPS (2020). *Statistik Indonesia 2022*. Badan Pusat Statistik. <a href="https://www.bps.go.id/publication/2020/04/29/e9011b3155d45d70823c141f/statistik-indonesia-2020.html">https://www.bps.go.id/publication/2020/04/29/e9011b3155d45d70823c141f/statistik-indonesia-2020.html</a>
- de Vries, W. T. (2021). Urban Greening for New Capital Cities. A Meta Review. *Frontiers in Sustainable Cities*, 3(June), 1–12. <a href="https://doi.org/10.3389/frsc.2021.670807">https://doi.org/10.3389/frsc.2021.670807</a>
- Edelman (2023). Navigating Investment Opportun Indonesia's New Ca Navigating Investment Opportunities and Challenges in Indonesia's New Capital City From Ideation to Progress. 1–8. <a href="https://www.edelmanglobaladvisory.com/insights/investment-opportunities-and-challenges-in-Indonesia-New-Capital-City">https://www.edelmanglobaladvisory.com/insights/investment-opportunities-and-challenges-in-Indonesia-New-Capital-City</a>
- Fitrianggraeni, B. S. (2023). *Indonesia's New Capital City and Indigenous People: Reconciling Investments with Environment, Social, and Governance Principles in Indonesia 2023*. 1–13. <a href="https://www.ap-lawsolution.com/actio/indonesias-new-capital-city-and-indigenous-people-reconciling-investments-with-environment-social-and-governance-principles-in-indonesia-2023">https://www.ap-lawsolution.com/actio/indonesias-new-capital-city-and-indigenous-people-reconciling-investments-with-environment-social-and-governance-principles-in-indonesia-2023</a>
- Ibrahim, A. H. H., Baharuddin, T., & Wance, M. (2023). Developing a Forest City in a New Capital City: A Thematic Analysis of the Indonesian Government's Plans. *Jurnal Bina Praja*, 15(1), 1–13. <a href="https://doi.org/10.21787/jbp.15.2023.1-13">https://doi.org/10.21787/jbp.15.2023.1-13</a>
- Inayatillah, F., & Pamungkas, M. E. (2019). *Cabinet Secretariat of the Republic of Indonesia, Gov't Relocates Capital to East Kalimantan*. <a href="https://setkab.go.id/en/govt-relocates-capital-to-east-kalimantan/?form=MGOAV3">https://setkab.go.id/en/govt-relocates-capital-to-east-kalimantan/?form=MGOAV3</a>
- Indonesia Investments Report. (2022). *An Update on the Construction of Indonesia's New Capital City Nusantara in East Kalimantan*. <a href="https://indonesia-investments.com/news/todays-headlines/an-update-on-the-construction-of-indonesia-s-new-capital-city-nusantara-in-east-kalimantan/item9565?form=MG0AV3">https://indonesia-investments.com/news/todays-headlines/an-update-on-the-construction-of-indonesia-s-new-capital-city-nusantara-in-east-kalimantan/item9565?form=MG0AV3</a>
- Jauchar, B., Budiman, B., Idris, A., Nasir, B., & Khaerunnisa, A. (2022). The Impact of IKN on Socio-Economic Development in Penajem Paser Utara (PPU) and Kutai Kartanegara. *Journal of Governance and Public Policy*, 9(2), 161–170. <a href="https://doi.org/10.18196/jgpp.v9i2.14083">https://doi.org/10.18196/jgpp.v9i2.14083</a>
- Kalalinggi, R., Hisdar, M., Sarmiasih, M., & Wijaya, A. K. (2023). Forecasting The Development of IKN (New National Capital) in Sustainable Development, Indonesia. *Journal of Governance and Public Policy*, 10(1), 48-59. <a href="https://doi.org/10.18196/jgpp.v10i1.16786">https://doi.org/10.18196/jgpp.v10i1.16786</a>
- Masdar, A.M.I.R., Santoso, P. & Adriyanto, A. (2023). Conflict Resolution Efforts Through The Implementation Of Inclusive Development In The New National Capital Region. *International Journal Of Humanities Education and Social Sciences (IJHESS)*, 3(2), 830–838. <a href="https://doi.org/10.55227/ijhess.v3i2.705">https://doi.org/10.55227/ijhess.v3i2.705</a>
- Muzady, R., & Berawi, M. A. (2023). Development of Smart Sustainable City Conceptual Design for Indonesia's New Capital City. In 7th North American International Conference on Industrial Engineering and Operations Management. 2678–2686. https://doi.org/10.46254/na07.20220575
- Nugroho, Y., & Adrianto, D. W. (2022). The Nusantara Project: Prospects and Challenges. *ISEAS Perspective*, 69(2022), 1–11. <a href="https://www.iseas.edu.sg/articles-commentaries/iseas-perspective/2022-69-the-nusantara-project-prospects-and-challenges-by-vanuar-nugroho-and-dimas-wisnu-adrianto/">https://www.iseas.edu.sg/articles-commentaries/iseas-perspective/2022-69-the-nusantara-project-prospects-and-challenges-by-vanuar-nugroho-and-dimas-wisnu-adrianto/</a>
- Rifaid, R., Abdurrahman, A., Baharuddin, T., & A. Kusuma, B. M. (2023). Smart City Development in the New Capital City: Indonesian Government Plans. *Journal of Contemporary Governance and Public Policy*, 4(2), 115–130. <a href="https://doi.org/10.46507/jcgpp.v4i2.141">https://doi.org/10.46507/jcgpp.v4i2.141</a>
- Rambey, C., Ferlito, C. & Waskito, A. S. A. (2020). *Indonesia's New Capital City and Its Impact on the Real Estate Industry in Greater Jakarta*. Provalindo
- Sagena, U. (2023). Capital on the Move: Policy of Relocating the Indonesian Capital City (IKN) and Its Transfer Consequences.
- Sumantra, Ni Luh Gita Gayatri (2023). Ni Luh Gita Gayatri Sumantra: The New Capital City: The New Home? The Delicate Dilemma between Sustainability and Growth in Indonesia's New Capital City. August 2019. <a href="https://resilienz-aachen.de/ni-luh-gita-gayatri-sumantrathe-new-capital-city-the-new-home-the-delicate-dilemma-between-sustainability-and-growth-in-indonesias-new-capital-city/">https://resilienz-aachen.de/ni-luh-gita-gayatri-sumantrathe-new-capital-city-the-new-home-the-delicate-dilemma-between-sustainability-and-growth-in-indonesias-new-capital-city/</a>

- Syaban, A. S. N., & Appiah-Opoku, S. (2023). Building Indonesia's new capital city: an in-depth analysis of prospects and challenges from current capital city of Jakarta to Kalimantan. *Urban, Planning and Transport Research*, *11*(1). 2276415. <a href="https://doi.org/10.1080/21650020.2023.2276415">https://doi.org/10.1080/21650020.2023.2276415</a>
- Teo, H. C., Lechner, A. M., Sagala, S., & Campos-Arceiz, A. (2020). Environmental impacts of planned capitals and lessons for Indonesia's new capital. *Land*, 9(11), 1–17. <a href="https://doi.org/10.3390/land9110438">https://doi.org/10.3390/land9110438</a>
- Yofa, R. D., Irawan, A. R., Rafani, R. & Sudaryanto, T. (2023). *The Development of Indonesian New State Capital (IKN) and Its Implications for the Agricultural Sector*. Food and Fertilizer Technology Center for the Asian Pacific Region.